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IMPLEMENTING FEMA REFORM: ARE WE PREPARED FOR THE 2007 HURRICANE SEASON?

HEARING

BEFORE THE

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

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IMPLEMENTING FEMA REFORM: ARE WE PREPARED FOR THE 2007 HURRICANE SEASON?

TUESDAY, MAY 22, 2007

U.S. SENATE,
COMMITTEE ON HOMELAND SECURITY
AND GOVERNMENTAL AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, at 3 p.m., in room SD–342, Dirksen Senate Office Building, Hon. Joseph I. Lieberman, Chairman of the Committee, presiding.

Present: Senators Lieberman, Landrieu, Collins, Stevens, Coleman, and Coburn.

OPENING STATEMENT OF CHAIRMAN LIEBERMAN

Chairman LIEBERMAN. The hearing will come to order. Good afternoon, and thank you all for being here.

Today we will examine the Department of Homeland Security's progress in implementing legislation which this Committee and the Congress passed last year and the President signed to strengthen FEMA and make it the leading force in our Nation's emergency preparedness and response system.

Just this morning, the National Oceanic and Atmospheric Administration (NOAA) predicted that this hurricane season, which is just 10 days away, will be a very active one. They predicted between 13 and 17 named storms and as many as 10 becoming hurricanes. We have already had our first named storm, in case you missed it—subtropical storm Andrea, which formed on May 9. And, of course, beyond preparing for and responding to natural disasters, we know that DHS and FEMA must be prepared to also respond to a possible terrorist attack.

I want to welcome our witnesses, FEMA Administrator David Paulison and Deputy Secretary of the Department of Homeland Security Michael Jackson. I want to thank you both for your service to our country in two of the most demanding jobs anywhere. Your successes are too often taken for granted and not noticed. Your failures, real or perceived, are broadcast live for all to see. That is a tough assignment, and I want to say to you and all of the employees of the Department of Homeland Security who work under you that we appreciate your hard work every day on behalf of the American people.

When Hurricane Katrina hit New Orleans and the Gulf Coast in August 2005, causing the deaths of over 1,500 people, destroying billions of dollars in property, and uprooting millions of lives, we all watched. The Nation watched live on television as a region

drowned and our emergency response systems floundered. It was the Department of Homeland Security's first large—that is, large to the extent of being catastrophic—challenge since it had been formed after September 11, 2001. And while the Coast Guard, a proud division of DHS, performed valiantly, rescuing thousands of people stranded on rooftops, the overall response was chaotic and uncoordinated.

Following the Hurricane Katrina debacle, this Committee, Senator Collins as Chair and I as Ranking Member, spent 8 months investigating what went wrong. We issued what I believe was a comprehensive and tough report, concluding that there were failures of government at all levels, including FEMA. The Committee's report contained many recommendations, a substantial percentage of which were adopted last year in the Post-Katrina Emergency Management Reform Act of 2006.

First and foremost, this new law was designed to ensure that a newly strengthened FEMA would be the hub of the efforts of the Department of Homeland Security, indeed of our government, to prepare for and respond to disasters of all kinds—natural and terrorist. That means that FEMA would be more forward leaning, efficient, and proactive. It would be prepared to marshal resources from across the Federal Government, the private sector, and nongovernmental organizations and move quickly, particularly in those cases, as in Hurricane Katrina, when State and local governments are overwhelmed. And DHS had to be prepared to fully support the efforts of FEMA. That was the goal of the 2006 law. It reunited preparedness and response within FEMA so that the officials who have to lead our Nation's response are also responsible for leading our efforts to prepare. We thought the two naturally went together and it was not good management to separate them.

The new law also makes the Administrator of FEMA the principal advisor to the President of the United States for emergency management and requires FEMA's senior leadership to have the emergency management qualifications necessary for their jobs, which was not the case prior to the new law.

I do want to say that I have been troubled recently, even as FEMA begins to implement its new authorities under the new law, to hear that there are some people who, notwithstanding the reforms that we adopted in the 2006 law for FEMA and DHS, are still calling for FEMA to be taken out of the Department of Homeland Security. I believe that would be a serious mistake, and I personally will do everything I can to stop such a step backward if there are legislative attempts to accomplish it.

The fact is that the 2006 legislation strengthens FEMA enormously by both making it a distinct entity within the Department of Homeland Security, in the same way that the Coast Guard and Secret Service are, and at the same time bolstering FEMA's ability to tap into and coordinate with the many other preparedness and response assets that exist within the Department of Homeland Security. That would be lost if we separated FEMA, the agency that we ask to be most involved in disaster preparedness and response, from the Department of Homeland Security, the Department we created to coordinate the Federal Government's protection of the American people from disasters. So with today's hearing as part of

our ongoing oversight of DHS and FEMA, we want to explore what DHS and FEMA have done, pursuant to last year's law—which in many ways just went into effect a little more than a month ago—to improve disaster preparedness and response and what challenges our witnesses see ahead that we can work together to fix.

America needs to know that we are making progress because Hurricane Katrina obviously did not just devastate New Orleans and the Gulf Coast. It also dealt a body blow to the confidence that the American people have in the ability of their government to protect them in times of disaster.

Today, almost 2 years later, we are clearly better off. FEMA has made changes that we are going to hear more about today. But FEMA continues, certainly in the Gulf Coast region, to face post-Katrina challenges, including the challenge of helping tens of thousands of Americans still living in trailers get back on their feet and bringing aid to communities across the Gulf Coast still struggling to rebuild. Obviously, building FEMA into the premier Federal emergency response agency our Nation needs has not happened and cannot happen overnight. But I am confident that today, FEMA within DHS is much stronger than it was on September 11, 2001, much stronger still than it was on the day in August 2005 when Hurricane Katrina struck the Gulf Coast, and I am confident that together we can make FEMA yet stronger, as strong as America needs it to be, in the months and years ahead.

Senator Collins.

OPENING STATEMENT OF SENATOR COLLINS

Senator COLLINS. Thank you, Mr. Chairman. Let me begin my comments today by associating myself with your remarks. I am baffled that there are those who are proposing that FEMA, the new, improved, strengthened FEMA, be moved out of the Department of Homeland Security. I have no idea what has prompted a renewal of this debate that we went through last year and concluded that it was the wrong solution to the problems that we faced.

I also want to point out, Mr. Chairman, as you are well aware, as most of the Members of this Committee are well aware, that this Committee conducted the most in-depth investigation into the flawed response to Hurricane Katrina of any entity. It was the only bipartisan investigation. We held 24 hearings; we interviewed 400 individuals. We had 85 public witnesses, and we reviewed 838,000 pages of documents. And, yes, we actually issued subpoenas as well to get the information that we needed. And the result was a detailed, lengthy report and comprehensive legislation, the Post-Katrina Emergency Management Reform Act, which became law in October.

That Act brought about sweeping changes to the Federal Emergency Management Agency. It raised FEMA's visibility, protected its status and budget within DHS, gave its Administrator a direct channel to the President, restored the linkage between preparedness and response, strengthened its regional presence, and established multi-agency strike teams to promote rapid and effective action. And this was all brought about because of the universal dissatisfaction with the response of government at all levels to the horrors of Hurricane Katrina.

The 2007 hurricane season does start very soon, on June 1. The widely regarded Colorado State University forecast also calls for a "very active season," as does the NOAA forecast that was released this morning.

So this is the ideal time for us to ask the question of whether or not FEMA is better prepared for potentially significant storms. I think the answer to that is obviously yes, but it leads to another question, which is: Is FEMA sufficiently prepared to respond to a catastrophe?

While memories of Hurricane Katrina and the approaching hurricane season provide the impetus for this very timely hearing, the purpose of our reform efforts was broader than just the response to hurricanes, or even to natural disasters in general. Our legislation explicitly defined FEMA's mission as all-hazards, whether natural or man-made, and invoked the full range of emergency management functions—preparedness, protection, response, recovery, and mitigation. In fact, one of the reasons that I am so opposed to moving FEMA out of DHS is that it would inevitably require DHS to create a duplicate of FEMA to respond to terrorist attacks.

Our Nation is regularly challenged by natural disasters, such as fires, floods, tornados, earthquakes, as well as at times by terrorist attacks. So when we ask whether FEMA is sufficiently prepared for the 2007 hurricane season, we are really posing questions that are proxies for a broader and deeper set of concerns.

FEMA Administrator Paulison, who is here with us today, recently testified on the House side that his agency is "leaning forward" and is an "engaged partner" with State and local agencies. And I have seen this firsthand lately in FEMA's response to the Patriots' Day storm in Maine that was devastating to the southern coast of Maine. And I am very grateful that the FEMA Administrator came to see firsthand the damage and has been so responsive to our concerns. I have also seen the response to the recent tornados in the Midwest, and, again, FEMA has received commendable praise for its quick response.

There have been a lot of improvements. FEMA has a new operating agreement with the Defense Logistics Agency. It has new capabilities for procuring, delivering, and monitoring supplies. None of us will soon forget the shocking, wasteful, and sometimes tragic stories of supplies delayed, spoiled, or misdirected because of an inadequate logistics system that hampered the response to Hurricane Katrina's victims. I am sure the Chairman remembers that ice designated for the Gulf Coast spent weeks in Portland, Maine, in cold storage, at a terrible waste and tremendous cost.

FEMA is also adopting new controls that will increase assistance to victims as well as help curtail fraud and abuse.

There are other indications of progress. Earlier this month, I participated in a New England exercise in Rhode Island and Massachusetts. The response was to a hypothetical Hurricane Yvette that struck New England, and the difference was remarkable. I saw first responders and emergency managers from all levels of government working with the National Guard, going through training, the kind of joint training that is essential. One of the lessons of Hurricane Katrina is never again should we have people who are in charge of the response exchanging business cards in the midst of

the crisis. And I was very pleased with what I saw during this New England exercise.

There still is obviously much to do, but I want to also tout a reform that is already paying dividends, and that is the reform that we mandated of having Defense Coordinating Officers assigned to regional FEMA offices. That has made a big difference, and I saw that firsthand.

Mr. Chairman, there is much more that we need to do. We need, for example, to make sure that we heed the caution of Florida's emergency management director, who is well known nationwide, that we need to increase the funding for the Emergency Preparedness Grant Program. That is part of the bill that we passed in the Senate, and I know we are going to fight for that in conference. And to this day, I recognize from a recent trip to Mississippi and my conversations with Senator Landrieu and Senator Vitter that residents of the Gulf Coast still point to a cumbersome bureaucracy that hinders the delivery of aid and reconstruction assistance.

There is still work to be done in completing the National Response Plan and the National Incident Management System. FEMA's reorganization is still a work in progress, and coordination with other Federal partners still needs to be improved. But I think we are seeing considerable progress. We are not yet there. We are not yet where we need to be. But I, too, Mr. Chairman, am pleased with the results of our legislation.

So I thank you for scheduling this hearing as our witnesses come before us to help us explore our readiness to respond to the inevitable next catastrophe, regardless of its cause.

Chairman LIEBERMAN. Thank you, Senator Collins.

Secretary Jackson, welcome. We look forward to your testimony.

TESTIMONY OF HON. MICHAEL P. JACKSON,[1] DEPUTY SECRETARY, U.S. DEPARTMENT OF HOMELAND SECURITY

Mr. JACKSON. Mr. Chairman, thank you for having me here today, and, Senator Collins, Members of the Committee, thank you for this hearing and thank you for the time and energy that you are spending on these issues. I am grateful for the support that this Committee has given to the Department, to FEMA particularly, and I am grateful for the sage counsel that was embodied in your comprehensive review of the post-Katrina actions that we needed to focus on.

I would like to offer just briefly by way of introduction, and then get to the question-and-answer period, an overview from the Chief Operating Officer position at DHS about how we are doing on the DHS reform integration and also how we are generally positioned relative to emergency management capabilities, as the both of you have discussed today.

I share the fundamental observations, Mr. Chairman, that you and Senator Collins have offered. When Hurricanes Katrina and Rita hit, we were obviously in clear possession of the vision of an agency, of a department, with serious deficiencies. These deficiencies were and are longstanding. I had a chance to see that firsthand back in the President's father's administration at Hurricane

[1] The prepared statement of Mr. Jackson appears in the Appendix on page 33.

Andrew and the aftermath of Hurricane Andrew. There are long-standing issues that we have not faced up to and that we are now, I think, clearly facing up to.

It would be folly to understand that the same degree of change is not needed at the State and local level. My saying this is not a ruse to blame others or to deflect blame from our Department for our past failures. There is a keen sense of awareness at DHS of our shortcomings and an eagerness to participate and to improve in doing our work.

The change is being driven—I should say, though, at the start—and thank you for your comments about the FEMA team and the DHS team that is supporting them. It is being led by an outstanding group of people who have been reviled and in some cases dismissed as oafs or worse in the work that they have done. And I would say that for me it is a magnificently inspiring group of people that have been willing to dig in and say, "This work is too important. Let us fix this, let us do it right. We know we have a lot to do. We are not perfect." And they want to get on with the job, and that is exactly what I see at FEMA today.

My job is to make sure that FEMA has clarity about its mission, that they have solid management tools in place to work, the right leadership, and that I help with the Secretary to clear a path forward for them to do their jobs.

Twenty-seven months ago, when Secretary Chertoff came in, we did not have the tools in place across the Department to support an architecture that would allow FEMA to operate in a totally effective fashion. I think, today, that we have put in place a multiplicity of such tools and very specific reforms. They range from getting people in the FEMA regional offices who have the right experience and the depth of experience to be able to deal with our jobs to this macro architecture of support. And I would like to just say a few words about that.

That architecture starts with the right doctrine, as our military colleagues would say. This means that we have to support our State and local colleagues. We have a strong supporting role, but we are there to support their mission. When they are unable to complete the mission, we have to be prepared to be an effective partner that fills the gaps. That means that we have to call upon maximum flexibility for on-scene leaders to do their job. We have to have capabilities to surge and accommodate all catastrophic incidents, whether they be natural or terrorist in their origin, as is clearly the case. And we have to lean aggressively into this with prepositioning of assets, a faster response cycle time, more extensive integration to the State and local teams as they communicate and they operate at the local level.

The tools in our toolkit that have helped us since Hurricane Katrina made landfall are a national preparedness goal. The interim goal, which is on the table and which is materially the same as we will come out with just shortly in a matter of days with the final version, is structuring how we work with the local and State investments necessary to make preparedness work.

The National Incident Management System (NIMS) provides a framework for this, and that, too, has been a product that we have delivered and now trained and exercised, too.

The National Infrastructure Protection Plan (NIPP) picks up the means and the tools and the points of connectivity and the networks necessary to protect our core infrastructure and to respond and recover from attacks against that. That has been published since Hurricane Katrina.

Just yesterday, we released the 17 sector-specific plans which outline the process of managing and the progress that we have made and the progress forward on how to work to protect our infrastructure. Strengthening infrastructure strengthens our response capabilities. We continue to invest money in this. The Congress has appropriated some $2 billion for interoperable communications, for example. We have put a significant focus on that since Hurricane Katrina made landfall, and we have just slightly less than $1 billion that we will spend in conjunction with the Commerce Department this year for further strengthening of that work.

We have programs with buffer zone protection with our nationwide plan review of State and local emergency preparedness work with assessments in 75 large cities and soon to come of all the States of the interoperability communications plans. And so I think what we are seeing is a substantial collection of additional asset structure strength and communications among those who are responsible for emergency preparedness.

I would conclude by just talking briefly about FEMA's role within the Department and the Department's responsibilities to support FEMA and the mission that it has.

Hurricane Katrina, unfortunately, revealed weaknesses and outright fissures in the unified command of operations within DHS. That was a historical relic of DHS's legacy integration—or the lack thereof. That is gone. That is over with.

By statute and by Presidential Directive, Secretary Chertoff is the principal figure on behalf of the Administration to provide coordination and unity of effort within the Federal Government regarding national incident management and emergency response. Mr. Paulison is his key figure in managing the operational components of this, but he is supported by and assisted in his work by the rest of the Department's activity and by other agencies of the Federal Government which operate in conjunction with FEMA.

Our role is to provide for the entire Federal Government and with our State and local colleagues an architecture, a plan, a process, a method for dealing with catastrophic incidents of all types. This has reached a level of maturation that did not exist in August 2005. Our mission has particularly focused on eliminating at the Federal level the seams between agencies and departments and also between the States and the local governments who have to work in harness with each other to manage such incidents.

My final words really are about a topic that both of you, Mr. Chairman and Senator Collins, have raised about the courage of our convictions in supporting DHS as we intended to create it and as it was created by law. Some today look back at Hurricane Katrina and are tempted to conclude that DHS is too large or that the complex mission is impossible to succeed with. The creation of DHS was a bold and gutsy move. Both the President and the Congress took those measures to make a place where the work of all-hazards protection could work, and that was the right decision.

I know that Mr. Paulison agrees with me that FEMA is made stronger by being a part of DHS, by being supported within a larger organization that is responsible for our larger counterterrorism mission and preparedness for natural disasters. I can assure you that what Congress voted to create is taking shape and improving. The senior leadership has its eye on this thought, which is that we are determined that by the end of President Bush's tenure, DHS will leave for the next President a strong, successful, and well-managed organization to make an effective transition to the new President and the new Secretary.

Why do I say that? It is not that we are not focused on the short term and this hurricane season, but we are saying that the task ahead is more than we will get done in a day. But there is a clear mission. We have made clear progress. We have substantial assets. I believe we are prepared effectively for the hurricane season. And this is our mission, to make certain that this Department is able to perform in a way that will give Congress and the American people the confidence that this is the right organization for the mission.

I would urge Congress to stay with the vision that created the new FEMA and, before that, the organization of DHS as a whole. I am convinced that a failure by Congress to embrace DHS's mission as an integrated homeland security organization will impel far too many of my 208,000 colleagues at DHS to question their own sense of commitment and enthusiasm for the mission at hand. The faith of DHS employees in our mission is the solid foundation upon which our success is daily driven. We need your support, and we will earn it, I hope, in the days ahead.

Chairman LIEBERMAN. Thanks, Secretary.

Chief Paulison, thank you for being here, and we look forward to your testimony.

TESTIMONY OF HON. R. DAVID PAULISON,[1] ADMINISTRATOR, FEDERAL EMERGENCY MANAGEMENT AGENCY, U.S. DEPARTMENT OF HOMELAND SECURITY

Mr. PAULISON. Thank you, Chairman Lieberman, Senator Collins, Senator Coleman, Senator Stevens, and Senator Coburn. I see Senator Landrieu has stepped out. I have been meeting with her on a regular basis, by the way. I do welcome the opportunity to come in front of the Committee and talk about what we have done for the 2007 hurricane season, quite frankly, since your report came out, and how we have implemented some of those things.

We have instituted numerous reforms to improve our ability to respond and recover from disasters. In addition to FEMA's internal transformation that we embraced to improve this agency, the Department of Homeland Security and FEMA have been working together closely to implement the adjustments included in the Post-Katrina Emergency Management Reform Act. The result is a new FEMA that is stronger, more nimble, as you talked about, Senator Lieberman, than it was simply just a year ago, and that has improved our preparedness posture for the 2007 hurricane season.

[1] The prepared statement of Mr. Paulison appears in the Appendix on page 43.

You can see the impact of these changes in our responses this year to the Florida, Georgia, and Alabama tornados, the Nor'easter that affected States across the Mid-Atlantic and New England, and just a few weeks ago in Greensburg, Kansas. In each of these cases, and immediately following the event, FEMA was an engaged partner with the State. We deployed operational and technical experts, moved logistics and communications capabilities, and that was even before a disaster declaration, and coordinated with the governor to assist and facilitate a Presidential declaration. It was also FEMA that supported and helped to facilitate an effective Unified Command system amongst the many Federal, State, and local partners involved in that response. We call this an "engaged partnership," and that is how FEMA is going to operate.

Our response to these diverse and numerous events across the breadth of this great country is evidence of the new FEMA's readiness for the 2007 hurricane season. With the first named storm of this season, Andrea, behind us and with this year's official prediction released today, let's look at our advanced preparation, our plan of operation during the storm, our improved ability to help with the short- and long-term recovery. Local governments will always be the first to respond, but FEMA still has an important role to play. The old paradigm of waiting for State and local governments to become overwhelmed before providing Federal assistance, as we saw in Hurricane Katrina, simply does not work. We have to go in as partners.

Under an engaged partnership, FEMA has strengthened our relationship with key State and local partners, and also we have learned that one size does not fit all approach to emergency management. FEMA is helping each State analyze their strengths and weaknesses. Thus, our plan is more informed, and we can better anticipate specific needs and quickly move to support each State with the things that it does need.

This reorganization has provided additional strength through these efforts. The Post-Katrina Reform Act establishes 10 regional administrative positions. This year, we have filled all 10, and not with just anyone but with solid and experienced managers, each with 20 and 30 years of hands-on experience in emergency management. These recognized leaders with backgrounds in firefighting, law enforcement, armed service, and emergency management are helping us to build strong relationships with our partners on the ground that will be essential for the future.

When a hurricane forms in 2007, FEMA will be ready to act. As part of our improved and reformed operations, we have prearranged contracts and improved and improving logistics systems and other elements already in place to expedite our response. FEMA can surge its own teams and assets into an area in anticipation of an approaching storm. This forward-leaning new FEMA, as evident in our response to the tornado that devastated Greensburg, in the first 72 hours coordinated the efforts of numerous Federal agencies. FEMA had an Urban Search and Rescue team on the ground the same day that Kansas asked for the support. Supplies were rolled in within hours. Mobile support vehicles moved in early, and I was very proud of the response of our team—and not only our teams, but also the State and local teams—for doing an

outstanding job. The mayor and the city manager both lost their homes, and they were there working to help get their city back up on its feet. They did an outstanding job.

Once a storm has passed, FEMA is also better organized and better prepared to help with the recovery. FEMA's Disaster Assistance Directorate has expanded its capabilities to assist with mass care, sheltering, debris removal, victim registration, including enhanced protections against waste, fraud, and abuse, and coordination among the government and private sector entities, all moving forward to provide assistance.

Another recent example is FEMA's response to the storms and floods that hit the Northeast earlier this year. FEMA had a staff on the ground before the rains stopped, evaluating damage and registering victims. Mobile assistance centers were available in the immediate wake of the storm. The first individual financial aid was actually delivered less than 24 hours after the President signed the first disaster declaration. This fast, efficient, multi-state response shows the type of action you can expect from FEMA during this year's hurricane season.

In conclusion, we have made real progress at FEMA and are much better aligned to prepare for the 2007 hurricane season. By leaning further forward to coordinate the Federal response, which is more informed through assessments and communications with our partners, we can better serve all Americans.

Today, FEMA has created engaged partnerships with State and local governments. We have facilitated and supplied an effective unified command across all levels of government. We have engaged with hurricane-prone States to gain better understanding of their vulnerabilities. We have improved logistics and communications capabilities that will improve response. And we have enhanced our disaster assistance capabilities for recovery efforts.

Now, we are not done yet. We know we still have a lot of work to do. I have already met with Senator Landrieu several times, and I know there is a significant amount of bureaucracy. And my goal under my tenure as the FEMA Administrator is to make sure that we can remove a lot of that bureaucracy and make our system much easier and much more user friendly.

But if our progress over the past year is any indication, I believe we are on the right track to fulfilling our vision to become the Nation's preeminent emergency management and preparedness agency. I am especially proud of the men and women who work at FEMA. They really have put their hearts and souls into rebuilding this agency.

I want to thank this Committee for their support, and I look forward to answering any of your questions.

Chairman LIEBERMAN. Thanks Chief. That was really good news. I appreciate the progress report. I understand it is early in the history of the new FEMA, but I must say—and Senator Collins and I have talked about this before—that in this unusual life that we live as lawmakers, there is nothing more satisfying than having identified a problem during an investigation, trying to create a response to it in law, seeing the law through passage and the President signing it, and then actually to hear about how it is being implemented. Specifically the beefed-up regional offices with the

interaction of Federal, State, and local officials, including, as Senator Collins said, a representative of the Defense Department right there, is really a step forward. And, obviously, if it had existed at the time of Hurricane Katrina, I think the Gulf Coast would have been in a lot better shape. So I thank you for what you have reported.

You mentioned both the tornado in Greensburg, Kansas, and the Nor'easter storm earlier this year, just a short while ago, and the quick response of FEMA. Talk a little bit, if you would, about the role of your regional office and regional strike teams in both of those cases. Is that part of why you were able to respond so quickly?

Mr. PAULISON. Senator, it is a different philosophy of how this agency is going to operate. We are not going to wait for a State to start asking for assistance. Now, we are not going to come in and take over, and we are not going to step on the State. But recognizing what the disaster is and having people on the ground that can tell us very clearly what the needs are going to be of the State, we can start moving quickly, sometimes before the local community or the State can recognize exactly what their needs are.

In the case of Greensburg, Kansas, we saw very quickly the entire town was destroyed, so we started moving cell systems in, radio systems for the local emergency responders to have land mobile radios to talk to each other. We knew they were going to need supplies. We knew they were going to need tarps. So we started rolling those things in, advising the governor that we were doing that, while they were working on the declaration.

We knew they were going to get a declaration just by the enormity of the situation, so why sit back and wait for the declaration to go through the process and get those papers signed before you start moving equipment? So when they needed the supplies and equipment and people, they were already there.

Chairman LIEBERMAN. One of the things that we learned—and I suppose it is just common sense, but it is important to say—during our investigation of Hurricane Katrina is that there is a difference between a natural disaster, which I would say the tornados in Greensburg and the Nor'easter earlier in our part of the country would qualify as, and a catastrophe. This characterization does not diminish the impact of those storms on people. They were devastating. But there is a difference between a natural disaster and what we, in our work on the Committee, came to call a natural catastrophe like Hurricane Katrina—a 100-year storm—which was beyond what we have seen and what FEMA previously has had to deal with.

So take a moment and try to spell it out for us a little more. Are you ready? If one of these hurricanes, God forbid, in this 2007 season becomes a catastrophic storm anything like Hurricane Katrina, what do you have now that FEMA did not have then?

Mr. PAULISON. Quite a few things. One, the report that came out of this Committee was extremely helpful in identifying the things that simply did not work, and we worked on those very carefully to put those in place: A better communications system, a much more coordinated logistics type of a system, a better ability to register people and track them, having people scattered across this en-

tire country and really not having a clue who they were, where they were, what their needs were.

Chairman LIEBERMAN. How about in the early moments of a natural catastrophe that is so great that it effectively incapacitates State and local government?

Mr. PAULISON. Part of the issue also was not having a good, rock solid evacuation plan and an ability to move people out, so that if you do have a known event coming in, like a hurricane, move people out of the town before the catastrophe happens. Then there is nobody there to get injured or pass away.

So we have been working with all the States. Right now, particularly in the Gulf Coast, we are doing a tri-state evacuation plan. Last year, we just kind of shoved one down their throats, working just strictly with Louisiana. But it has a major impact on the surrounding States, so we are working with all three States there—Mississippi, Alabama, and Louisiana—to do a tri-State evacuation plan.

We are also doing a gap analysis tool across not only the Gulf States but all the way from Florida to Maine on looking at those issues of what is in place for evacuation, what is in place for transportation, what is in place for sheltering, what are the gaps, so we can help fill those now instead of waiting for a catastrophe to happen.

We also have the ability that we did not have before for the President to do a pre-landfall declaration, where let us say if a Category 3, 4, or 5 storm is coming into a Midatlantic State or Florida or, God forbid, Louisiana again, we can do a pre-landfall declaration and start providing funds and equipment prior to the hurricane making landfall. That will help the city get much better prepared and the State get much better prepared to move in.

We have put a lot of tools in place just by literally stepping back and watching what went wrong with Hurricane Katrina, what can we do to mitigate that, if we should get another storm of that size.

Chairman LIEBERMAN. What will the presence of a full-time representative of the Department of Defense in the 10 regional FEMA offices enable you to do?

Mr. PAULISON. What we did not have during Hurricane Katrina—and I think Secretary Jackson can talk about this also—is have the mission assignments in place with the military understanding exactly what they are going to do and what our needs are that we need from the military.

We had about 14 pre-scripted mission assignments across the entire Federal Government before Hurricane Katrina. Last year, I had about 44 in place. This year, I will have over 180 pre-scripted mission assignments. A lot of those are with the military. By having those Defense people in each region—and also in FEMA headquarters, we have put some of our people at NORTHCOM and some of their people at FEMA headquarters. To have that relationship so we will get action immediately instead of having to negotiate mission assignments, like the Secretary did after Hurricane Katrina made landfall, those will be ready to move before a storm even hits. That is a tremendous asset for us.

Chairman LIEBERMAN. And as you remember it, as we discussed, one of the thoughts about the regional offices is that they would

prepare more for the kinds of disasters that were likely to occur in their region. So I presume that the region, for instance, that Kansas is in had a set of plans ready to go in case of a tornado, as compared to the Gulf Coast, which would prepare more for hurricanes.

Mr. PAULISON. And they did. They had a good plan in place, and they responded very quickly to that town. The town was totally devastated and did not have a lot of resources itself. But the adjunct general who runs the emergency management out of the State was in there very quickly, had a lot of equipment on the ground, and that was part of the reason, plus the early notification—they had 20 minutes before the tornado hit to move people into basements—for the low loss of life.

Chairman LIEBERMAN. Thanks, Chief. My time is up.

Senator Stevens, as you saw, came by and had to leave for a meeting, but asked me to submit two questions for you, Chief, for the record, and they are typically direct and tough questions from Senator Stevens.

Senator Collins.

Senator COLLINS. Thank you, Mr. Chairman.

Mr. Chairman, I am sure that you and Senator Coleman will remember that the lead-off witness for our investigation was a FEMA employee from Region I named Marty Bahamonde, who was the first person in New Orleans and, regrettably, the only FEMA person in New Orleans prior to the storm. And he happens to be a Region I employee, so during this exercise for the hypothetical hurricane that struck New England, Mr. Bahamonde was one of the participants, and he came up to me and volunteered how dramatically better FEMA was organized. And this was a very credible report because he essentially was our whistleblower who started our hearings off. So I just wanted to share that with the Members of the Committee.

Nevertheless, Mr. Paulison, not all is perfect, and there still are areas of great concern, and one of those you have touched on very briefly in responding to the Chairman, but I want to pursue it with you.

When I think back on the hearings we had, the hearing that was most troubling to me dealt with the failure to evacuate those who could not evacuate themselves, particularly frail, sick, elderly members of nursing homes. And that to me was such a colossal leadership failure at all levels. Certainly the Louisiana official who had been assigned responsibility to do the evacuation plan, who had just utterly failed to perform his responsibility, bears a large measure of the blame, but the fact is that our investigation showed that it is not just Louisiana that has had flaws in its plans for evacuating those who cannot evacuate themselves.

Please bring us up to date on how FEMA is helping State and local governments better plan evacuations. This is an area where GAO has been critical of FEMA's efforts and has said that they are not sufficient and that evacuation plans for many State and local governments—and they are the primarily responsible parties here—failed to take into account the special needs of non-mobile populations.

Mr. PAULISON. Senator, that is a major issue across this country, not just in hurricane States. We have a large elderly population.

A lot of them are not mobile, and how do you deal with those when you have to evacuate those.

Last year, we worked very closely with Louisiana identifying the nursing homes and those types of shelters—some can shelter in place—doing a survey of those to see who can shelter in place. Do they have the plans in place and things in place to do that? And those who cannot, forcing them to put a plan together of how they are going to evacuate, where they are going to go, and how are they going to get there.

We are doing similar things in all the hurricane States. We are doing, like I said, a gap analysis, and part of that gap analysis is just not talking about evacuation but what are you going to do with your elderly, what are you going to do with your people who are not mobile, what are you going to do with pets, and what are you going to do with hospitals. Just looking at each of those plans from Texas all the way to Maine, then very carefully working with the States to make sure they put those plans in place. It is so important that every State has those rock solid plans in place to do those things.

Senator COLLINS. I think that is absolutely critical. We had language in our bill that spoke to the need to have effective evacuation plans.

I want to turn to another area where I still think FEMA needs to improve, and that is to ensure that the true victims get the assistance that they deserve as quickly as possible, but that those who are not victims do not rip off FEMA's Individual Assistance Program. We had two hearings on this last year where we found very disturbing examples of outright fraud, not to mention waste and abuse but outright fraud. And a lot of it was caused by FEMA not having in place obvious safeguards to verify identity, to verify damage, to ensure that duplicative payments were not being made.

We want to make sure that the money goes to those who really need it and is not lost to waste, fraud, and abuse. Depending on GAO's and the IG's estimates, our estimate was that as much as $1 billion in Federal assistance was lost to waste, fraud, and abuse. What steps has FEMA taken to ensure that we do not see that kind of looting of the Individual Assistance Program in future disasters?

Mr. PAULISON. A major problem during Hurricane Katrina, no question about it. FEMA did not have the capability to have identity verification to make sure you were not applying for benefits more than once. Sometimes some people applied 20 to 30 times. We have put systems in place that we can now tell you are who you say you are and you lived where you say you lived, and our Web-based system does not allow duplicate applications from one household.

So we put a lot of systems in place to stop that. It was very important that we did that because we simply could not go back to the way it was in Hurricane Katrina. And that is, again, one of those lessons that we learned that came out of this Committee that we have put in place.

Senator COLLINS. Perhaps the worst example of that were those prisoners who applied for and received rental assistance while they

were incarcerated. Are you confident that would not happen given the safeguards that you now have in place?

Mr. PAULISON. Yes, Senator, I am. We are very confident that—now, you are not going to stop 100 percent of the fraud. That is just the way any system is going to work. But we really feel very comfortable that we can stop a lot of it, and a lot of it sometimes was done not intentionally. People got two checks and did not report that. We are able to stop that now with the identity verification and our Web-based system that simply will not allow two applications from one household.

Senator COLLINS. Thank you.

Chairman LIEBERMAN. Thanks, Senator Collins. Senator Coburn.

OPENING STATEMENT OF SENATOR COBURN

Senator COBURN. Well, thank you, Mr. Chairman, for having this hearing. I think it is important for people to hear the positive side of FEMA. I had some personal experience with them in 19 counties in Oklahoma, eastern Oklahoma this year, and although their communication was not always great, the response was excellent, and they carried out their mission greatly.

I also would note my disappointment, again, with the fact that OMB obviously held the testimony. We did not get it until yesterday evening, so it is hard to prepare, to read your testimony, and to have the time to think over the problems that we have in front of us. Again, I would ask you to send a message. I do not know when you got it to OMB, but the fact that we did not get it until the night before the meeting violates our rules and is inappropriate for us to do an appropriate job.

I am supportive of the changes that have been outlined and accomplished by both Senator Lieberman, Senator Collins, and the Committee. But I really want to focus on a couple of things on the financial aspects of FEMA and DHS. Basically if you could be audited—which you cannot be because they cannot complete an audit on you—what the American people would see is something similar to Enron accounting. And my question really is not blame. I know you are working on that, and we are improving every day, and hopefully someday we will get to audited financial statements for both FEMA and DHS. But basically what I am worried about is the duplication that we are going to see as we now combine FEMA with DHS. We have 80 grant programs at DHS, and the IG has identified 36 Federal assistance programs that have the potential to duplicate the DHS programs, and I am worried a little bit about the potential in those specific grant programs that the IG talked about in terms of being duplication from FEMA grants to DHS grants and HHS grants, and I am wondering what is happening. What are the safeguards that are in place now so that we do not duplicate the grants, so that we truly send grant money where it is needed, but then we do not turn around and send it again for the same thing?

If you can give me some examples on how you are trying to coordinate that rather than the stovepipe, here is DHS grants and here is FEMA grants, so that we are not sending money twice, foregoing somebody who should be getting it because the money has already gone to somebody that is getting it twice.

Mr. JACKSON. Senator Coburn, I will take a first shot at that one, and Mr. Paulison can jump behind me if he wants.

There are no stovepipe grants in the Department. They are all run in one coordinated way. DHS has FEMA as its executive agent for all of our Homeland Security Grant Programs, and those grants are managed out of FEMA. But let me unpack what that means for you.

FEMA has the financial management, the audit, the discipline for financial controls and assessments to make certain that money is being spent as we said it would be spent and that it is being used as we have required by all the rules of the grant guidance.

If I could unpack our grants, we have a large grant program for States and a large grant program for cities, major cities, and both of those are administered by FEMA under an agreement within the Department where we all put the appropriate assets to the task to support the grant program.

The Secretary at the end of the day feels like he owns the responsibility to make sure that his Department does not stovepipe programs but supports these programs in an effective way.

Senator COBURN. So you are saying there is one system in DHS that is responsible for and administers all the non-disaster grants.

Mr. JACKSON. That is exactly right.

Senator COBURN. And when did that come about?

Mr. JACKSON. On March 31 of this year, when we moved it by virtue of the law that Congress had passed into FEMA and administered it that way.

Senator COBURN. And it is effectively being run at this time?

Mr. JACKSON. Exactly.

Senator COBURN. All right.

Mr. JACKSON. Senator, if I could, there is one point that is really important about this that I would just like to make. FEMA does not have the subject matter expertise for all of those Homeland Security Grants. For example, the risk formula that we need to run this program has to call upon our intelligence services, it has to call upon our infrastructure protection people in the field, it has to call upon the broad array of assets in the Department to make a judgment about how to define these programs for the maximum impact.

If you look at our substantial amount of money we spend on transportation and infrastructure support, the Coast Guard, for example, has the subject matter expertise for port security programs. They have a Captain of the Port. The whole program revolves around the Captain of the Port and the various professional assessments that flow from that area of subject matter expertise. For our transit grants, it is the Transportation Security Administration.

So around the Department, Fire Administration, for example, inside of FEMA has the subject matter expertise for the Fire Grants. So Mr. Paulison is responsible for the financial controls and financial management and the distribution of these systems and the management of it. But he calls upon, literally spread throughout the Department, the multiplicity of assets there that will help make these grants effective. And that is why the opening comments by both the Chairman and Senator Collins about the neces-

sity to draw within FEMA upon assets in the Department is very real and tangible when it comes to grants.

Senator COBURN. Let me just sneak in one other question. There are two grant programs for interoperability, both essentially run through you, both authorized and funded—one through the Commerce Committee and one through the Homeland Security Committee. Correct?

Mr. JACKSON. Well, not exactly. This is one grant program, and Commerce has assigned DHS as its executive agent to design the program, to deal with the States, to manage it so that it is integrated in an effective way with our Homeland Security Grants for States and urban areas.

Senator COBURN. And how much is that?

Mr. JACKSON. It is this year $1 billion. It is a one-time grant program. The ultimate sign-off agreement comes from Commerce, and so they have the statutory authorization to obligate the funds, and they use this program at DHS to accomplish that. We are working hand in glove with each other.

Senator COBURN. All right. Thank you.

Chairman LIEBERMAN. Thanks very much, Senator Coburn.

Senator Landrieu, thank you.

OPENING STATEMENT OF SENATOR LANDRIEU

Senator LANDRIEU. Thank you, Mr. Chairman, and let me begin by thanking you and Senator Collins for the work that you have done to get us to this point. I did not receive the testimony, unfortunately, until too late to prepare the specifics of the testimony today. But I was able to receive from the Committee a long list of accomplishments that this Committee has achieved since Hurricanes Katrina and Rita. And I am pleased to have been a part of that, and I do know that FEMA is stronger today than it was when Hurricanes Katrina and Rita hit the southern coast of Louisiana, Mississippi, and Texas. The question is: Is it strong enough? And that is what this hearing and many other hearings that will take place on this side and the other side of the Capitol in many different committees will continue to ask: Is it strong enough to respond to a catastrophic disaster, whether that disaster is caused by the collapse of multiple Federal levees that should have held and did not, whether it is a catastrophic disaster of a terrorist attack of many different natures that we could think about?

And so we have to pursue aggressively our reform efforts, and I continue to represent, of course, millions of people who are affected daily by the failure of the system to respond to this particular large-scale disaster. I am fairly certain, as my colleague from Oklahoma said, that FEMA is equipped to deal with your regular tornadoes, regular storms. But as the Chairman and Ranking Member know, since they have been down to New Orleans, Louisiana, and Mississippi, what happened to us was a flood of biblical proportions, seven times the size of Manhattan, 250,000 homes under water, 20,000 businesses lost, and responding to and recovering from this kind of disaster is beyond the scope of what this country has attempted to do, just way beyond the scope.

So while things have been improved—I have many questions that I am going to submit to the record, but I will ask Administrator

Paulison: What are the three things that you are most proud of having accomplished since you have been there? And what are the two or three things that you still firmly believe we have got additional work to do?

The two things you are most proud of accomplishing that you think will have the most impact and two things that are on your mind that we could focus on to help you with.

Mr. PAULISON. If I had to think of two very quickly, I think working with the Secretary and the Cabinet to put together a unified command system. One of the biggest failures that I saw during Hurricane Katrina was the inability to share information from the local community to the State, the State to the Federal Government, and inside the Federal Government. We have tested the system all the way up, including the President's Cabinet. We have used it in smaller instances, but the system works. It worked in the first responder world for 30 years, and now we have it in our entire emergency management system.

I am going to give you three. The other is leadership. I only had two of my 10 regional director slots filled, and they happened to be two very good people, so I kept those. But I have the other eight filled with rock solid people who have emergency management experience.

And then being able to register people and track them and developing partnerships with people, like the Red Cross and HHS and others that can help us do that so that we do not end up with the same mess that we had, quite frankly, with Hurricane Katrina that had particularly the biggest impact on Louisiana.

The things that we do need help with is housing. If we have another catastrophic, mass migration, which is what this was, the largest migration in the history of this country. How do we do a better job of housing people? FEMA should not be in the long-term housing business. HUD should be in the long-term housing business, and now we are partnering with them to make that happen. So I would appreciate support from this Committee when we bring this before you of exactly how we are going to do this.

The other is logistics. We are still working on logistics. It is much improved over what it was before, and it is much improved over last year. We still have a long ways to go to get the type of system that I want in place that the business community uses every day, and we are working hard to do that. I brought in one of the top people out of the Defense Logistics Agency, hired him away from them, and brought him in to put our logistics system together. And that is really starting to take shape, but it is not where I want it to be yet.

Senator LANDRIEU. You can most certainly appreciate, given your comments about housing, why I am pressing this Congress so hard for the 10-percent waiver, which helps us rebuild our public facilities which support the rebirth of the city and the region. Is there any reason that you would know of that we would not be entitled to ask for that waiver given that it has been given before?

Mr. PAULISON. You are always entitled to ask for it. Our position has been—and I have not had a conversation with the Secretary or the President on this lately—that by the State being involved financially with the decisions, we have much better control over the

expenses, making sure they are spent in the right way. And that is the position we have had in the past with all States.

Senator LANDRIEU. But we have waived the 10 percent in the past for at least the most recent disasters.

Mr. PAULISON. That is correct.

Senator LANDRIEU. And my final question would be about this planning. While some of this is too late for us for this time, it is not going to be, hopefully, the next time. I am still concerned, Mr. Chairman, that we are not investing more money in planning, but we are moving money from one pot to another. How much money was in the grant program for local planning for disasters before Hurricanes Katrina and Rita? And how much is available today? Are we $1 billion to the positive or $1 billion or more to the negative?

Mr. PAULISON. Senator, I cannot give you that off the top of my head, but I can get that to you if you submit that for the record.[1]

Senator LANDRIEU. Do we believe it is an increase?

Mr. PAULISON. I do believe that.

Senator LANDRIEU. But we do not know what percentage.

Mr. PAULISON. I just do not know what off the top of my head, but I know it is an increase. Also, when I took over FEMA, there were no operational planners inside of FEMA, and now we are hiring a lot of those. We put a planning office inside this organization to assist with those types of things, and they will be going out to the regions to work with the States on planning. But we know that is an important issue, and you rightfully brought it up. It is a weakness in the system, our planning system, and that is what we are addressing. I just cannot give you the figures.

Mr. JACKSON. Senator, I can add just a little bit of a gloss to that. In our core Homeland Security Grant Programs, planning is an eligible expense, which is to say that when a State or a community wishes to use this money for planning purposes, they are allowed to do so. I think all of us have seen the lesson of Hurricanes Katrina and Rita and know that this is an area for more work.

We have gone out to the 75 largest cities, and we have reviewed their planning process, reviewed their preparedness measures, and we have issued a report on where that stands. We are continuing to engage with them on interoperability, for example, all the States, all the territories, all the major cities, and a statewide plan is coming soon this fall for interoperability of communications.

So we are trying to do that and to put the training and the exercise programs together in ways that are much more robust. In the Federal Government, we have created a coordinated training program, an exercise program—especially the exercise part—with the Defense Department, with DHS, and other agencies to be able to take these core catastrophic scenarios and operate much more effectively to exercise together.

Senator LANDRIEU. OK. And I know that my time is up, but I know that our bills have doubled the authorization for these grants. But doubling the authorization and appropriating a double amount of money are two different things. And I just want, Mr. Chairman, for us to make sure on the appropriations side that we

[1] The response from Mr. Paulison appears in the Appendix on page 71.

are actually investing more money for planning which could help save not only lives but property, etc.

Mr. PAULISON. Mr. Chairman, if you do not mind, if I could mention one more thing?

Chairman LIEBERMAN. Go right ahead.

Mr. PAULISON. We also have put a lot of money aside for catastrophic planning, particularly in Louisiana for another catastrophic storm coming in there. We are doing catastrophic planning in Florida around the Herbert Hoover Dike around Lake Okeechobee and a Category 5 storm coming into Miami, and also doing catastrophic planning for the New Madrid Fault.

So those are new dollars that we have actually set aside for this year to do that catastrophic planning, which can be applicable across the entire country once we get them done.

Chairman LIEBERMAN. Thanks very much, Senator Landrieu. You made a very good point at the end there.

Senator Coleman.

OPENING STATEMENT OF SENATOR COLEMAN

Senator COLEMAN. Thank you, Mr. Chairman. What a difference leadership makes, both Mr. Chairman and the Ranking Member of this Committee, in the work that was done last year and the review, investigation, and reports, and clearly leadership that is represented at the table. It is refreshing for me to hear about engaged partnerships and a forward-leaning new FEMA. And I think that is positive.

I want to look back and then look forward. There was an article in the *Washington Post*[1] about 3 weeks ago that talked about international assistance and a story that out of $854 million in cash and oil that was to be sold for cash, only about $40 million had actually been used. Did we ever figure out what happened, whose responsibility, and understanding, as Senator Landrieu said, this was a disaster of biblical proportion. In my experience as mayor, that 100-year flood seemed to happen more than once every 100 years. And so I do not want to look at this as just something that happened and we never have to deal with again.

So, two questions. One, did we ever sort out what the problem was? And, two, should we have those kind of international offers again, would we be in a better position now to utilize and to get that money into action?

Mr. PAULISON. We, inside the United States, did not have a good system in place on how we accept international donations and what we are going to accept, and that was a flaw in our system. We have put a good system in place. We have been working with the State Department on how we are going to set up a system to accept international donations. FEMA will be involved with the State Department on what our needs are, what we can accept, and what we will not accept.

A lot of the dollars that were promised, they have not been received. We did receive $120 million: $60 million went to the Department of Education, I think they have already spent $30 million

[1] The article from the *Washington Post* submitted by Senator Coleman appears in the Appendix on page 61.

of that; the other part went for crisis counseling that we distributed, and they are still doing crisis counseling with it.

So the dollars that we received we spent. We distributed—and I forget exactly what the figure is, but hundreds of metric tons of supplies that we did take in: Blue tarps, generators, and a lot of other supplies. What we were not able to accept sometimes were foodstuffs and things like that.

So now we are doing a better job of laying out exactly what we can accept and what we cannot accept. We can make that known to our international partners out there if we do have a catastrophic event. That will make our system work much better.

Senator COLEMAN. I appreciate that. One of the biggest concerns that we heard in our review is about interoperability, at the local level, and between local and the Federal level. Where are we at today? You talked about unified command system logistics. But on the interoperability piece, the communication piece, what is your assessment of where we stand today?

Mr. PAULISON. The interoperability issue, we really have come a long way. We have a lot of money going to the system. The billion dollars from the spectrum sale is now coming into the system to be distributed.

The biggest issue with interoperability is really a management issue sometimes more than an equipment issue of how we are going to communicate with each other. It can be as simple as changing hand-held radios, working out of the same command post, or working in a unified command system. The technology that exists out there, units like the ACU–1000 that can merge five or six different frequencies together in one place. Most of the State National Guards have the capability. FEMA has the capability with several units around the country to move into an area and provide interoperable communications like we did in Kansas just recently.

It is an issue that is quickly becoming resolved. Sometimes it is almost a buzz word, "Well, I do not have interoperability," but the fact is there is resolution to it at the local level also.

Mr. JACKSON. Senator, I would say there are two problems. One is operability and the other is interoperability. If you are wiped out, like we were in New Orleans and you do not have towers and communications systems, you need to be able, for a rapid response, to move in those temporary communications infrastructures necessary to be able to communicate. And the other part of it is what Mr. Paulison has addressed with the interoperability investments that we are making around the country.

There are some bright spots. In Texas, for example, they have statewide interoperability to the point where people from all around the State, emergency responders, can come and talk to each other with guaranteed success and proven capabilities to do that. I was with the governor recently when he announced their accomplishment of getting to this benchmark for the State. But there is a lot more investment that needs to be made here to make this where we need to be.

Senator COLEMAN. And my concern goes back to the uneven playing field at the local level. Minnesota has put a lot of time and a lot of effort into this issue of interoperability, but my concern is if there is an unequal playing field, that when a disaster occurs,

somebody needs to be there to make sure that the playing field is level and that the system is operational in spite of States not having achieved the success perhaps that Texas and Minnesota have achieved.

Mr. JACKSON. Right. There has been differential investment here, and you will see in the fall very detailed progress reports and report cards on a statewide basis from all the States about where we are. This tool is being used by us to drive the investment that we will be making with the $1 billion Congress has provided. So we are looking for these disciplined, systematic, and clear plans, and you will see it in black and white where we stand across the whole country with those.

Senator COLEMAN. The confidence of the people is often a factor in our ability to do the things that have to be done. There were recent surveys that continue to show a lack of confidence at the Federal level. At the State level, it appeared folks had a high degree of confidence in their local responders, but, still, I think it was about three in 10, 30 percent, had confidence in folks at the Federal level, and that number was worse for minority communities.

Are you addressing that issue? Do you have something in place that would spread the word? We are going to hear a little bit of it today. What are you doing to reach out to people to raise their level of confidence?

Mr. PAULISON. We are doing that with all 10 regional directors in place and with very clear direction from me to make sure they make those contacts so, like Senator Collins said, we are not exchanging business cards in the middle of a disaster, telling them what we are doing, showing them what we are doing.

The problem is going to be until we have a major event and this agency performs, it is going to be difficult to get over those doubts. We lost a lot of confidence during Hurricane Katrina. We are rebuilding this agency back again. It is going to perform. But I do not expect people to believe me. I expect them to see what we actually do, and we have been doing that. Every disaster we have had, whether it is in Florida, Georgia, Alabama, Kansas, or up in the New England States, FEMA has done an excellent job of responding to these disasters, and we just do it a piece at a time. And I think eventually we will get there.

Senator COLEMAN. Actions speak louder than words.

Mr. PAULISON. Yes, sir. Right on target.

Senator COLEMAN. Thank you, Mr. Chairman.

Chairman LIEBERMAN. Thanks very much, Senator Coleman.

We are going to do a second round. Do you have to go?

Senator COBURN. I just have one question.

Chairman LIEBERMAN. Go right ahead.

Senator COBURN. The $1 billion, is that enough to solve the interoperable problem?

Mr. JACKSON. No, but it makes a heck of a downpayment on top of the $2 billion we have already spent. As Mr. Paulison said, really one of the core problems remaining is that we have to have the governance structures necessary to make this work. This is not necessarily about buying gizmos or all the same gizmos for all the same people. It is about making the fundamental management de-

cisions about who needs to know what type of information and what time sequence and who is talking to whom.

There are bridging mechanisms, technologies that can help us take existing tools and link them together. In the places where we have seen great success, it has been State and local leaders who have a very clear vision and a strong commitment to getting the job done. And the places where we need to go a little farther, it is a case of sometimes trying to get a community together. And even in a single State, you can see a diversity there among communities that really get it and get all together with the multiplicity of law enforcement and emergency managers that have to be connected.

So that is the part where I would say for the smallest investment of money, a little bit of energy and leadership in the right way can help us bridge very far where we need to be.

Senator COBURN. So are you going to need another $1 billion?

Mr. JACKSON. I am not here to tell you what it is going to cost, but I am here to say that this is not going to end the problem. We are using our Homeland Security grant dollars for this every year. That is where the $2 billion figure comes from. Since DHS was created 4 years ago, we have spent $2 billion on this, and we will spend more in the Homeland Security Program this year as well, on top of the $1 billion.

Senator COBURN. And you realize there is another $1 billion in the 9/11 bill that is in conference right now for the same issue?

Mr. JACKSON. I have heard stories.

Chairman LIEBERMAN. Just to give you the latest update, the budget resolution that has passed has $400 million to fund the first part of the interoperable communications grant program. As you know, the $1 billion that you got was the beginning of a program which will now flip over into this new program when we actually get it authorized.

We have naturally today talked about preparedness for natural disasters because the FEMA reorganization followed the terrible performance of FEMA during Hurricane Katrina. But FEMA also has very critical responsibilities to lead the Nation in responding to a terrorist attack, and, of course, the Department of Homeland Security was created in the aftermath of September 11, 2001. So I wanted to ask at least one question about that.

The 9/11 Commission, the Kean-Hamilton Commission, said that one of the causes of September 11, 2001, was a failure of our imagination, which is to say that we could not imagine that people could want to do and do what the terrorists did to America on September 11. So we have to think about the normally unimaginable. A while ago, we asked Secretary Chertoff, what was his No. 1 nightmare? His response was a nuclear weapon being smuggled into a large American city and detonated by terrorists. Yesterday, a reporter told me that he had interviewed the director of the FBI and asked him what his No. 1 concern was. His answer, understandably, was the same thing.

So let me ask you both, are we ready? God forbid that happens, but are we ready to respond in a way that diminishes the devastation that would be caused by such an explosion of a nuclear weapon in an American city?

Mr. JACKSON. I would say we clearly are better equipped to do this mission than before the creation of DHS, before September 11, before the focus that has been brought about thinking about the awful and catastrophic on a daily basis across the government. It will still be a very untidy and devastating event if we have the type of attack that Secretary Chertoff explained to you in his testimony as his worry, and which I certainly share.

So there is no way to make it a happy day, everybody be picked up quickly and dusted off and put back on the road. This is one of Mr. Paulison's problems, I think. What has happened is we have created an expectation that if anything bad happens and if it is catastrophic, this expectation, I think, is even more that somehow the Federal Government will come in and swamp them immediately and make everything better.

So what he has to worry about is that there is an unreasonable set of dependencies or expectations on what can be done by a government, and I would say that is not an excuse for the most aggressive and forward-leaning and considerable investment in making catastrophic incidents easier to manage. But it will not take away the word. "Catastrophic" means——

Chairman LIEBERMAN. No way. I agree. Incidentally, I should say what we all know, which is that the Department has divisions within it, working alongside law enforcement and the new intelligence apparatus through the Director of National Intelligence and the National Counterterrorism Center, to prevent such actions. And, in fact, they have been prevented, most recently with the arrest of six men involved in a plot in Fort Dix, New Jersey, but more catastrophically in the arrests in the United Kingdom of those individuals who were planning to fly that series of planes over to the United States and blow them all up in the air before they reached here.

So, unfortunately, there is already evidence they are trying to carry out the extreme and bizarre. It's a big question to ask, but let's talk about catastrophes. It will be a terrible day, a dark day, but God forbid this happens—is FEMA prepared to mitigate the effects of such a nuclear explosion set off by terrorists in an American city?

Mr. PAULISON. I can tell you that it is not being ignored. We had a major exercise, in fact, last week involving the Department of Defense, HHS—every Federal agency played in the same type of scenario you just laid out, how we would work together. There were a lot of lessons learned out of that exercise.

In the exercise, FEMA was capable of carrying out its mission of making sure that we could provide the things that we are supposed to provide. We even had classified video conferences on how you would make certain decisions or what you would do.

So we are working on these types of things. You know, I think the Secretary is absolutely right. With a catastrophic event like that, it is going to be a catastrophic event, and it is not something you are going to go in and clean up in a couple days. There are going to be tens of thousands, maybe hundreds of thousands of injuries and fatalities, and where do you put people and how do you deal with them. There will be some very difficult decisions to make.

FEMA is not the core agency to deal with those types of things, but we are playing our part, and we will perform up to the best of our ability.

Chairman LIEBERMAN. Who is the core agency?

Mr. PAULISON. Well, on the health side, it is going to be HHS. The Department of Defense is going to be involved.

Chairman LIEBERMAN. Right.

Mr. PAULISON. FEMA is going to be involved with a piece of it. The Department of Justice will be involved doing the investigation.

Chairman LIEBERMAN. Who will coordinate?

Mr. JACKSON. The Secretary of Homeland Security.

Chairman LIEBERMAN. The Secretary of DHS.

Mr. PAULISON. He will be the coordinator, yes, sir.

Chairman LIEBERMAN. I must tell you, I am encouraged that you accept at least the possibility of such a scenario and that the government is planning for how to mitigate its effects.

Mr. JACKSON. Mr. Chairman, can I just respond real quickly on that one?

Chairman LIEBERMAN. Please.

Mr. JACKSON. To show you the priority that we place on exactly what you are asking about, we have created at the Department operational planning cells which are drawing staff from all the relevant Federal agencies—Defense Department, HHS, Energy, Transportation—that are able to accommodate for particular matters of growth to the entirety of the Federal Government's assets. And we are unpacking the 15 scenarios that are part of the National Preparedness Goal to give very precise operational plans. This is working out of our Operations Coordination Group. It has got very active involvement from FEMA and other aspects of the Department.

The No. 1 plan that we are working through operationally, and the first draft is being interagency coordinated as we speak, is on this type of nuclear attack in a city.

Chairman LIEBERMAN. I appreciate that. It is reassuring. I thank you for it. Senator Collins.

Senator COLLINS. Thank you, Mr. Chairman.

Secretary Jackson, one of the most significant findings of this Committee's investigation into Hurricane Katrina was that there was a significant delay in getting support to the States and to the local governments because of the way the system was set up. Under the system in place at that time, the local government had to be overwhelmed and essentially fail before the State government would step in. Then the State government had to be overwhelmed and fail before the Federal Government would step in.

Senator Lieberman just posed the question about a truly significant catastrophe such as a nuclear bomb being smuggled into a city. That is a perfect example of a catastrophe that is going to overwhelm even the best local government and most likely the State Government as well.

What is DHS doing to not wait until there are failures of delivering services at the State and local level before stepping in when there is obviously an overwhelming catastrophe?

Mr. JACKSON. Senator, this is an excellent question and an important point, and I just want to make sure that I have rammed

the answer home very clearly. We have changed our total operating model for how to manage this type of incident based upon the results of our failure in Hurricane Katrina. What that means is spread across the Department in different ways. You have heard the Administrator talking about how we preposition goods more aggressively and move them up to the point of deployment while we are waiting for the request to come from a State if we know that it is likely to be there. Sometimes we have actually done that and then had to move them back to the warehouse a little bit when it turned out not to be so bad. I would rather err in that way, call it an exercise, and then not be able to fail if we have the need for the goods.

So at FEMA, we are moving into that as much as possible. We can declare in advance of a known, a pre-known event, a disaster before it strikes, like in a hurricane. For an attack of a chemical, nuclear, or biological nature, we would instantly move the assets that we have into that arena as necessary. We would certainly closely coordinate with the governor and make sure that we are all operating in a unified way, but it would not take a lot of paperwork rigmarole to get us up and operating.

Senator COLLINS. Mr. Paulison, I noted that you smiled as I was asking that question, which makes me think you may want to add something.

Mr. PAULISON. No, you were singing my song. That is exactly how we are going to operate. It is a different philosophy inside this organization, and with the support of the Secretary, we are leaning very far forward, just like we did in Kansas, moving equipment early, knowing we are going to get a declaration, and why wait for the paperwork to be signed before we move in. So we have been doing that.

It has raised some eyebrows inside the organization. We had 30 years of history here and 30 years of culture, and we are changing it. Sometimes it is difficult to change in a few months, but we are making headway, and we have a lot of people inside of FEMA now who are saying, yes, this is the right way to do it, and most everybody is getting aboard with it.

Senator COLLINS. Thank you. Secretary Jackson, just one final question. I may submit some others for the record. We found during our investigation considerable confusion between FEMA and DHS as to who performed what role. We also found that there was an astonishing lack of situational awareness that added to that confusion.

What has DHS done to better clarify the roles within DHS? We have talked a lot today about coordination with State and local partners, coordination with other Federal agencies. But within DHS, what has been done? And, second, what has been done to ensure a far better level of situational awareness than we saw during Hurricane Katrina?

Mr. JACKSON. In DHS, we have just faced up to what we need to do to be able to operate in the fashion that we are able to do today. And we have defined our roles and responsibilities in very clear, unambiguous ways. The management team meets weekly with each other from the seven operating components of the Department. There is no core ambiguity about how we are going to

operate as a Department, and there is ample opportunity for the experienced leadership team to be able to go directly to the Secretary or directly to the Deputy and resolve any question of this nature quickly.

We have created an Operations Coordination Group as part of the Secretary's initial assessment of the deficiencies inside the Department. That is now up and effectively functioning, and that is a substantial enhancement to being able to make sure that we are connecting to each other on an operational basis, on a daily basis, so that we have a surge capacity to jump into a big circumstance.

So how do we assure ourselves that we have situational awareness? It occurs at multiple levels, and it gets integrated and fused in our National Operations Center, which is managed by the Operations Coordination head. That work leverages and pulls a major pipeline of information from FEMA during the course of a FEMA-centric event. But if it were another type of event, it would pull from other agencies with greater volume.

For example, we have established a team of people both at FEMA and within ICE to be able to swamp into an area quickly with communications devices using satellite links, with cameras and video and other capabilities to be able to show clearly what is happening in that Superdome with these people. Is there a problem here or is there not?

We have put a common operating platform together inside the National Operations Center to fuse data from literally thousands of different points into a common template that can be put up and understood easily as to the major functioning elements of the response and recovery.

We have created a new Operations Center for FEMA and are using better technology tools, better doctrine about how to communicate, more extensive training of people in this process. This is literally a question we could talk for many hours on, but you are hitting on an indispensably important part of making a new FEMA, a new DHS, which is integrated where the management team all knows what their role is and where they want to work together.

I think as your own hearings proved, there were not such common points of understanding about how the Department operated and its components related to each other on the day that Hurricane Katrina made landfall. That is over with.

Senator COLLINS. Thank you. Thank you, Mr. Chairman.

Chairman LIEBERMAN. Thanks again, Senator Collins. Senator Coleman.

Senator COLEMAN. Thank you, Mr. Chairman.

One of the exchanges that I found rather disturbing when we did our Hurricane Katrina review, I think it was a FEMA witness who made the comment that it was not an issue of whether there was enough food or supplies. It was in the pipeline. They just did not know where it was. I think my comment was, you should have hired FedEx or given a call. Just touching on logistics, if there are supplies in the pipeline today, do we have the computer capability, the capacity, much like any basic shipping company has today, to know exactly where things are and how long it is going to take to get them?

Mr. PAULISON. We do. We have put a system in place called total asset visibility, and it is not just tracking the vehicles. It is the whole entire ordering system from the time the order is placed in the field until it goes through the regional office and to who is actually going to deliver supplies and tracking that real time.

We have the capability of tracking our vehicles that come out of Denton, Texas, and out of Atlanta. We do not have it in the rest of the country yet, but we have it there. But, also, we are looking at very clearly—you mentioned FedEx, using what we call the 3PL, third-party logistics, using other people's tracking systems instead of just continuing to purchase the stuff ourselves. So that is a piece we are looking at for the upcoming hurricane season into 2008, is how do we tap into that private sector out there that already does this and does it very well, as opposed to trying to re-create the wheel inside of FEMA. But our logistics system now is light years—and I mean light years—ahead of where it was 2 years ago.

Mr. JACKSON. Senator, I agree with that, but I would tell you we are not where we want to be. And when Senator Landrieu asked the Administrator what one of his worries was, this was one of his worries. So we have gone from the Stone Age to a moderately effective set of tools. We sure as heck have another major jump to make, but the good news about this, it is not rocket science to do it, as you have indicated. This is about fusing commercial, off-the-shelf products that are used in the trucking industry and the logistics industry and the air cargo world.

The Defense Department learned how to do this between the first Gulf War and the second Gulf War, and what they were able to do at TRANSCOM and at Defense Logistics Agency by leveraging those commercial in-transit visibility tools and fusing them into their planning and management systems is a lesson that we are going to borrow. We are not going to reinvent the wheel. We are going to leverage existing technology in the commercial world. We are going to have end-to-end visibility, and you will see between this year and next year another major change and growth spurt in how FEMA manages this.

So it is a good example, Mr. Chairman, of something that we are not trying to put a little smiley face on in front of our microphone and say it is all done, forget about it, do not bother me about this. This is an area where we have to invest more.

Senator COLEMAN. I think it is important. I appreciate the self analysis. I think it is at times frustrating to the average citizen. You go to an ATM machine and you get your instant cash. You order a pair of shoes, and they are not there that day, you give Johnston & Murphy or somebody a call, and they tell you exactly where they are and how long it will take to get there. And here we have a government that spends billions and obviously was not there in Hurricane Katrina.

So I appreciate the focus, and hopefully we will be part of the 21st Century before the next natural disaster occurs.

There have been recent reports about lack of National Guard strength. Some say strength is being depleted by international commitments, the war in Iraq. I would be interested in the assessment of either of you gentlemen as to the state of National Guard

readiness today should there be a major terrorist attack or natural disaster.

Mr. JACKSON. I had lunch last week with the General who runs the National Guard, Steve Blum, and his assessment is that for our needs, they are prepared and they are ready. I know this because we have 6,000 National Guard troops at the Southern border on an extraordinary mission in support of CBP. When we have a catastrophic event, there will be many claims upon the National Guard. They are also overseas fighting a war now. But we have found and the National Guard leadership believes that they will be able adequately to support us in the missions that we expect FEMA to need to draw upon during the course of this hurricane season.

Senator COLEMAN. This "Are You Ready?" publication is an in-depth guide to citizen preparedness.[1] For a government document, it is actually pretty simple. It is pretty good. An average family, a Mom and Dad could look at this, and it deals with everything from a radiological disaster to extreme heat, extreme cold. We do not worry about the—actually, it is hot in Minnesota on occasion. But it is actually a pretty good publication.

I have a copy of it. How does the average citizen get this? Can you get it in public libraries? What are you doing to make this available? Because this goes to my confidence issue, just to have people know that we are thinking about this and we are connecting with them better than we have in the past. Is there a plan or program to make this available?[2]

Mr. PAULISON. It is available online. They can go on our website and download that. All the information is there also. Everything that is in that book is also on our website, and we do advertise that.

Senator COLEMAN. Is there a plan to get it in public libraries, local schools, things of that nature?

Mr. PAULISON. We have a group, the Citizen Corps Group, that does a lot of this for us. It distributes this. Putting it in public libraries is probably not a bad suggestion. I will look at that.

Senator COLEMAN. Great. Thank you. Thank you, Mr. Chairman.

Chairman LIEBERMAN. Thanks, Senator Coleman, for your contribution to the hearing.

As you know, when Hurricane Katrina hit, FEMA did not have technical assistance contracts in place for the provision of housing-related needs. After the storm hit, the agency then rushed around and entered into four large non-competitive contracts with the Fluor Corporation, Shaw Group, Bechtel, and CH2M. In October 2005, when you came before the Committee, you pledged that you would compete the requirements covered by the four large contracts. My staff tells me that FEMA did award new contracts for maintenance and deactivation of trailers in April of last year, but that the agency also continued to use the four large non-competitive contracts until recently, when a competition for new technical assistance contracts was carried out.

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[1] The report entitled "Are You Ready?" appears in the Appendix on page 107.
[2] The response from Mr. Paulison appears in the Appendix on page 73.

Why did FEMA keep extending the four contracts? And are the new technical assistance contracts now in place for the hurricane season?

Mr. PAULISON. We did continue to use them for a period of time because it did not make sense right in the middle of this housing push when we were putting trailers on the ground to try to change horses midstream, so to speak.

However, they have been re-bid. We do have new contracts in place. Now there are five instead of four. I made it a policy that I do not want no-bid contracts in this agency. We have a lot of contracts that we have written ahead of time that we are not even using yet—they are on the shelf—so we do not end up in that situation trying to write a contract when you really need it, where you are really at a disadvantage to get a good negotiated deal. So we are putting those in place ahead of time.

We have a couple smaller no-bid contracts that are still viable, and we are going to re-bid those as soon as they come up. And the only other no-bid contracts that we have is if we go into a town and have to put a trailer park up or something, a trailer site, there is no reason to bid that. If there is a trailer site there, we will go in and lease that from an agency. But my philosophy is as it was back in 2005, that except for extreme circumstances, we should not be doing no-bid contracts.

Chairman LIEBERMAN. OK. I appreciate that reassurance. You kept on those four, as you said, because it did not make sense to switch. Even though they were let out non-competitively, without bidding, you felt that they were performing under the contract, and it did not make sense to stop them in midstream.

Mr. PAULISON. Yes, sir, and they had really gone through the bidding process. I did the research after we heard of this. They had gone through the bidding process and had gone through it to the extent they would have received the bids. What we did not have is the opportunity to sit down and negotiate the terms of the contracts that I would have necessarily put in there had we had the opportunity and more time to do that. Now we have done that.

Chairman LIEBERMAN. I appreciate it. You have talked a lot about plans and preparation. I know that DHS has been rewriting the National Response Plan, and FEMA, at one point, set for itself a goal of June 1 to release it. Recently, you said you probably would not be able to finish it by then. Just give us a status report—when do you hope to have the National Response Plan done?

Mr. JACKSON. We hope to have another version of it done by July, and what we have done is listened very carefully to our constituents and used this thing called "common sense." The current thing is like a telephone book. It is highly impenetrable and difficult to understand by people who speak regular English. And so what we have heard from every angle is, can you make this thing in a shorter compass and a more focused and disciplined way speak to the core requirements of the National Response Plan? So we are going through one iteration here and trying to get it in that sort of form where it is a useful tool, it has all the strength and robustness of the existing tool. If we had a hurricane or an incident of national significance today, we made changes last year to the National Response Plan, and they have been promulgated for a

year. They are there and understood by all. We have a road map of how to behave, and now we are trying to get it just a little bit more sensible and written in a way that people can use it and train to it and understand it at a governor's level, at a mayor's level, at the level of a Congressman that needs to understand his role in this process, and all the points and process of emergency management around the government.

Senator COLEMAN. That hierarchy from governor, to mayor, to Congressman, was that——

Mr. PAULISON. I think I would have said it differently, sir. [Laughter.]

Mr. JACKSON. It is consistent with what the National Response Plan invokes, which is to say that all disasters are local, and State and local leadership are usually the first on the scene.

Chairman LIEBERMAN. That is good news. I appreciate what you have said. It takes me back, if I may, to my own previous life as Attorney General of Connecticut when I used to do a series called "The Law in Plain Language," so that the people could actually understand it. It sounds like you are aiming for a National Response Plan in plain language, so I appreciate that.

I do not have any more questions. Do you have any final statements you would like to make?

Mr. JACKSON. Sir, I would just say thank you for the support this Committee gives to our work and to the Department. We rely upon you, and we are grateful for the chance to talk further about what we are doing.

Chairman LIEBERMAN. Glad to do it. I will say again that the bottom line, to quote you, Secretary Jackson, "Is that we are not trying to put a smiley face on anything." There are still things to do that we have not done as well as we want to, but I would say that this has been a very reassuring report. It is certainly reassuring to me, and I think if the American people heard it, it would be reassuring to them, too. It is not my business to give you free consulting advice, but I think this is such a good story that you ought to ask your communications people to see if they could interest some people in the media, including television, to come in and do a story about how much better DHS and FEMA are prepared for this hurricane season than they were prepared before Hurricane Katrina because it is a reassuring story.

I thank you very much. We are going to leave the record open for 2 weeks so that Senator Stevens and others who may wish to submit questions to the record may do so.

For now, the hearing is adjourned.

[Whereupon, at 4:43 p.m., the Committee was adjourned.]

APPENDIX

STATEMENT

OF

MICHAEL P. JACKSON

DEPUTY SECRETARY

U.S. DEPARTMENT OF HOMELAND SECURITY

BEFORE THE

HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS COMMITTEE

UNITED STATES SENATE

MAY 22, 2007

WASHINGTON, D.C.

INTRODUCTION

Good afternoon Chairman Lieberman, Ranking Member Collins, and Members of the Committee. I am pleased to appear today before your Committee with my colleague, Federal Emergency Management Agency (FEMA) Administrator R. David Paulison, to discuss the Department's work in implementing FEMA reforms and supporting strong incident management capabilities for the nation at DHS.

Administrator Paulison has submitted for the record a statement focusing on the work of FEMA to implement the Post-Katrina Emergency Management Reform Act, and to prepare for the upcoming hurricane season. My prepared remarks will not duplicate that more specific testimony. Rather, I'd like to offer, from the perspective of the Department's chief operating officer, a brief assessment of our efforts to strengthen all-hazards preparedness and incident management capabilities across DHS.

POST-KATRINA REFORM IN EMERGENCY MANAGEMENT AT DHS

Hurricanes Katrina and Rita obviously revealed serious deficiencies at FEMA and at DHS regarding emergency management capabilities. After considerable review, and with experience working for three Presidents, I have personally concluded that FEMA has for decades been inadequately staffed and not properly structured to respond to a truly catastrophic emergency. Our recent failures had, in short, a long incubation. Indeed it is a delusion to think that FEMA ever had a "Camelot Era" in which it was structured to succeed with regard to events of the magnitude of Katrina. So now we know our weaknesses, and DHS has been hard at work for over a year to introduce appropriate discipline and true reform.

This is a Herculean effort, but it would be folly not to understand that the same degree of rapid maturation is required simultaneously of our State, local and private sector partners. My saying this is not a ruse to deflect blame for past failure; there is a keen awareness at DHS of our shortcomings, as there is also a strong and growing conviction within the organization that we have begun to emerge on the right side of an enormous change for the better.

This change is being driven by a magnificent core of talented staff at FEMA and throughout

DHS. DHS is receiving strong support from other federal and state partners, about which I will say more below. FEMA employees in particular have been ridiculed and derided as oafs or worse. I can tell this Committee with utter conviction that the "new FEMA" you see before you today is made possible by countless people at all levels within the organization who refused to let themselves be hounded into abandoning a mission that they knew they could accomplish, if properly supported.

My job at DHS is to make sure we have clarity about our mission, solid management tools in place to do the work, the right leadership – and then to help clear a path for the team to succeed. Again, I want to provide you a scrupulously fair assessment of where we are: doing very much better, but still facing significant additional work. In fact, the culture of continuous improvement that we are trying to grow at DHS requires that we be forever constructively impatient to do better, faster. Such is needed not only to contend with Mother Nature, but especially to stay ahead of the terrorist threat to our nation. Perhaps I can frame just a bit of where we have been, and where we are headed.

EMERGENCY PREPAREDNESS DOCTRINE, STRATEGY AND PLANS

Twenty-seven months ago, Secretary Chertoff arrived at DHS as our second Secretary. Secretary Ridge's heroic start-up of this enormous new agency had laid plans for important tools that were not yet in place at Katrina's landfall. But today we have significantly strengthened this still-new Department with a rapidly growing toolkit of these emergency preparedness resources, and battle-tested managers. We are beginning to realize returns on the early investments. We are strengthening the basic architecture of preparedness for which DHS was created.

To use the argot of our military colleagues, we have been bringing greater clarity to the *doctrine* of emergency management that animates our work. At its heart, our plans are based on an acknowledgement that state and local first responders will virtually always be first to the scene of a disaster. Our role is to support them effectively, to support their state colleagues who are the second line of defense and then, if state and local resources are stretched too thin, to be there in support of our state and local colleagues.

It is core doctrine that we must design a system that gives maximum flexibility to the on-scene leaders, while building capabilities that can surge to accommodate the most catastrophic events. It is a decisive lesson from Katrina that the federal government must be able much more aggressively to lean into a supporting role that allows us to pre-position assistance more comprehensively, arrive faster, partner more seamlessly with state and other federal partners, and overall operate more effectively. Recent FEMA deployments will show, however, that this doctrine of "leaning aggressively forward" is nonetheless taking root successfully and certainly lawfully within FEMA.

Today we have virtually completed and will soon release the final version of the *National Preparedness Goal.* The *Interim Goal*, which is very closely aligned with the final product, has already been widely distributed and embraced by emergency management planners nationwide. This document's title is perhaps somewhat misleading, as the *Goal* subsumes not only a concise preparedness performance objective for the nation, but it also puts into place two key elements that support reaching that goal: planning scenarios and response capabilities. The *Goal* – and the supporting work to achieve it – covers the full range of all-hazards work: to prevent, protect, respond and recover.

The *Goal* identifies fifteen scenarios for catastrophic event planning by which our national exercise and training regime is being directed. The Secretary of Defense has issued an order embracing these fifteen scenarios as the basis for our joint exercise agenda. After considerable interagency work at both state and federal levels, the entire Executive Branch has recently adopted a consolidated, multi-year training and exercise schedule that will bring together core planning and exercise investments.

The DHS Operations Coordination directorate is managing an extensive interagency process to support operational planning for each of the fifteen scenarios. Core agencies have detailed planners to DHS's Incident Management Planning Team for this purpose. The first two products of this effort are quite far along: operational plans for a hypothetical nuclear event and plans for a pandemic influenza outbreak in the United States.

Second, the *Goal* identifies 37 core capabilities that are needed at the state and local level to manage serious events effectively. DHS has aligned its extensive homeland security grant programs to help our state, local, tribal and private sector partners develop and strengthen these capabilities. The capabilities and the grant programs are, of course, aligned with the Department's risk-based, intelligence-driven investment principals to prioritize first the capabilities that are most crucial.

Shortly before Katrina's landfall the federal government issued the *National Response Plan.* It is probably fair to say that, at the time of landfall, not all of the various parties who must act in concert with this plan had managed adequately to internalize it. That is no longer the case. Last summer, DHS released an amended version of the *National Response Plan* to capture lessons learned from Katrina prior to the hurricane season. That plan is in place. It has been much better absorbed by all parties, and it would successfully structure the national response if an incident of national significance were to occur today. Nonetheless, we are currently completing a second revision that will further strengthen the *National Response Plan.* We aim to have that released by July. It will not offer a radical departure in content, though we hope to incorporate the many suggestions that the text be more readable and compact. I would be happy to answer questions about our preliminary approach to these additional changes, if the Committee so wishes.

The National Response Plan is supported by and supports the *National Incident Management System* (NIMS), which provides the core structural management discipline for incident management. FEMA is aggressively training federal, state and local emergency mangers in this discipline at our Emmitsburg, Maryland facility and with numerous training tools. Again, progress is being realized in expanding NIMS training.

National response work *per se* is focused disproportionately on incident response and short-term recovery actions, but it must be linked seamlessly to a broader all-hazards strategic continuum of activity that leverages investments for the prevent/protect missions. Since Katrina, two other important elements of the DHS preparedness architecture have been delivered that are particularly focused on the prevent/protect missions.

The final *National Infrastructure Protection Plan* (NIPP) was released in June of 2006. It establishes a comprehensive risk management framework that clearly defines critical infrastructure protection roles and responsibilities for all levels of government, private industry, nongovernmental agencies and tribal partners. Just yesterday, DHS released the 17 Sector-Specific Plans that support the NIPP. Together, these 17 sector plans serve as a roadmap for how infrastructure sector stakeholders are implementing core security enhancements, communicating within their sectors and with governments to reduce risk, and iteratively strengthening security.

Strengthening infrastructure strengthens our response capabilities. We continue to invest in interoperable communications, and we have made significant progress in the last year. We have invested some $2 billion in this area since standing up DHS. This year, the Department of Commerce's National Telecommunications and Information Administration, in consultation with DHS, will also award almost $1 billion in grants to public safety agencies to enhance interoperable communications. There is still much more to do to improve interoperability in communities across the nation.

Further, maturation of other programs at DHS continues to strengthen our preparedness capabilities. This includes support for state fusion centers, and buffer zone protection grants executed in conjunction with state and local authorities. A key post-Katrina advance has been a deepening of our interagency planning and more extensive cooperation at the federal level. This is particularly notable, in my opinion, in the Department's partnerships with the Department of Defense, a crucial support for catastrophic events. With the maturation of NORTHCOM, we have exchanged DHS and NORTHCOM staff to work within each other's command centers. NORTHCOM planners are now co-located with FEMA regional staff, and the FEMA regional officers and staff are undergoing a rapid and significant growth, and receiving needed professional development and operational support.

DHS's Nationwide Plan Review combined self-reported Emergency Operations Plan data with a more rigorous peer review process to evaluate local disaster preparedness in all 50 states, six territories and our 75 largest cities. This review, which we completed in 2006, provides an

important progress report from the states and a path ahead for the work DHS will need to support with our state and local colleagues. In conjunction with the 2007 hurricane season we have done more detailed, hurricane specific planning with the hurricane-prone states, and particularly with the Gulf Coast states, as is summarized in Administrator Paulison's testimony.

On the Saturday after Katrina landfall, I spent the afternoon with Deputy Secretary of Defense Gordon England and key military and FEMA leaders, urgently designing mission assignments to structure Defense Department support for the Katrina relief efforts. Today that just would not need to happen, as FEMA and Defense have some 180 pre-coordinated mission assignment agreements in place that cover virtually the entire range of potential needs. There is a strong framework for aggressive and effective partnership. Similar stories can be reported of enhanced interagency planning work with other federal departments – and deeper understanding of our respective assets, missions and interdependencies.

Finally, an important post-Katrina focus inside of DHS's seven operating components has been to strengthen the adaptive force packing capabilities of the Department in support of our overall emergency management mission. This has yielded notable gains at Coast Guard, the Transportation Security Administration, Immigration and Customs Enforcement, Citizenship and Immigration Services, Customs and Border Protection, Secret Service as well as at FEMA. Hurricane Rita, the 2006 Lebanon evacuation, and, later, the August 10, 2006 UK aviation plot – each of these incidents exercised different elements of these interconnected and now more capable adaptive force assets within DHS.

ONE DHS

Katrina unfortunately revealed weaknesses and outright fissures in the unified command of operations within DHS. That was a historical relic of DHS's legacy integration – or the lack thereof. It has now been eliminated. By statute and by Presidential directive Secretary Chertoff is the principal federal official to provide coordination and unity of effort within the federal government regarding national incident emergency management. DHS's mission is certainly not to interfere, for example, with the unified command of the Secretary of Defense or the Secretary of Health and Human Services within their own organizations. Rather, DHS supplies an

integrated plan and a unifying force to coordinate an effective response. We execute many response tasks ourselves, yet other vital responsibilities are discharged in concert with other federal agencies.

This has reached a level of maturation that did not exist in August 2005. Our mission at DHS is particularly focused on eliminating or managing the seams between organizational responsibilities and capabilities, whether within the federal government or with regard to our state and local partners.

I would like to conclude by saying a bit about the integration and maturation of DHS as it pertains to emergency management. Today some look back at Katrina and are tempted to conclude that DHS is too large and our mission too complex to succeed.

The creation of DHS was a bold and gutsy move, shaped both by Congress and the President. It was absolutely the right thing to do; indeed I'd say in hindsight it was our only choice if we are to meet the threats facing the homeland now and ahead for our children's generation. I would argue that when an operational component is most needy, DHS has brought additional resources, management focus and helping hands. I'm not just talking about FEMA.

I can tell literally dozens of stories, however, about how we made it through the days, weeks and months after Katrina, by working together. The contributions of the Coast Guard in Katrina response are well documented. Less well understood, perhaps, was the way in which Secretary Chertoff was able immediately to tap virtually all DHS operating components in the days and months afterward. The Secret Service, for example, with virtually no notice, helped overnight assemble a successful security plan to protect those staying at several large congregate care shelters. As we prepared for last year's hurricane season, and for this one as well, FEMA enjoyed assistance from DHS procurement, contracting, information technology, management, legal, Congressional affairs and other headquarters staff.

I know that Administrator Paulison agrees that we have been able to move FEMA as far as we have come, precisely because we have become one team at DHS. The recent reorganization at

DHS and at FEMA has created a stronger DHS, and certainly a stronger FEMA. The degree of interconnection and interdependencies among DHS operating components is growing.

For example, FEMA is now the grant administrator for DHS homeland security grants. But they are not the subject matter experts for all DHS grants. That role is held by Coast Guard for port security grants, and by the Transportation Security Administration for other transportation infrastructure grants. The Department's intelligence organization and the new National Protection and Programs Directorate provide risk-based program information in support of DHS grants. I will tell you that the Secretary correctly understands that he is responsible for the ultimate decisions regarding the risk formula and strategic priorities that shape of the State Homeland Security Grant Program and the Urban Area Security Initiative Grant Program, as well as owning all criticism and any meager praise that has come the Department's way for these grants. In the grant work, as with other matters, FEMA is a partner and colleague within the Department, in support of our larger homeland security mission.

This sense of working together well is evident at a personal level among the Department's leaders. Weekly I met with the seven operating component heads at DHS to assess together our challenges and to counsel about the path ahead. This meeting is known at DHS simply as "the Gang of Seven," because its focus is on the operators and our interdependence. The Secretary routinely joins these meetings, and of course the senior management team is thrown together throughout the week around a host of policy and operational issues. I can assure you that what Congress voted to create is relentlessly taking shape and gathering strength.

The senior leadership team has its eye on five core objectives, which Secretary Chertoff described earlier this year to this Committee. If I had to sum all of our mid-term objectives into a single compass, it would be this: we at are determined that by the end of President Bush's tenure we will leave DHS strong, successful and well managed to make an effective transition to a new President, a new DHS Secretary.

CONCLUSION

Mr. Chairman and Ranking Member Collins, you have been and continue to be among the most

steadfast defenders of the importance of creating the Department and sustaining its mission. And, quite fairly, sometime our most insightful critics. But others in Congress recently have been tempted to abandon such support, or even have suggested pulling DHS apart piecemeal before we complete the task Congress set for us. We at DHS are not asking to escape any deserved criticism, when we are found wanting. But I urge Congress to stay with its vision. I am convinced that a failure by Congress to embrace DHS's integrated homeland security mission will impel far too many of my 208,000 colleagues across the Department to question their own commitment to this important enterprise. The faith of DHS employees in our mission is the solid foundation upon which our success is daily being built.

Statement of

R. David Paulison

Administrator

Federal Emergency Management Agency

Department of Homeland Security

Before the

Senate Homeland Security & Government Affairs Committee

Washington, DC

May 22, 2007

Introduction

Good morning, Chairman Lieberman, Senator Collins and Members of the Committee.

I welcome the opportunity to appear before this Committee to discuss how the Federal Emergency Management Agency (FEMA) is prepared for the 2007 Hurricane Season in the wake of our recent reorganization.

The federal response to the 2005 Hurricanes was a clarion call for change in disaster response and recovery for the country and all of those involved in emergency management. Based on the many lessons learned, FEMA instituted numerous reforms to improve its ability to respond and recover from disasters. In addition to FEMA's internal transformation that we embraced to improve the agency, the Department of Homeland Security (DHS) and FEMA have been working closely with other components within DHS to implement the adjustments included in the Post Katrina Emergency Management Reform Act (PKEMRA). The combination of FEMA's transformation and those changes enacted from PKEMRA are resulting in a new FEMA that is stronger, more nimble and more robust than we were just a year ago.

I would like to address the changes that are building a new FEMA, the reforms in our planning and operations under this structure, and their effect on our preparedness for the 2007 Hurricane Season.

Let me begin with the reorganization.

The New FEMA – Organization

Last fall Congress passed and the President signed into law the Post-Katrina Emergency Management Reform Act. The legislation reorganized DHS and reconfigured FEMA to include consolidated emergency management functions, including national preparedness functions.

Significantly, and consistent with the "lessons learned," the new FEMA has not simply tacked on new programs and responsibilities to an existing structure. Rather, we conducted a thorough assessment of the internal FEMA structure, including new and existing competencies and responsibilities within FEMA. On April 1 of this year, this new and expanded FEMA was formally established. This new organization reflects the expanded scope of FEMA's responsibilities—and the core competencies that we are seeking to establish and enhance. It supports a more nimble, flexible use of resources. It strengthens coordination among FEMA elements and with other DHS components. It enables FEMA to better coordinate with agencies and departments outside of DHS. And, it delivers enhanced capabilities to partner at the State, local and tribal level with emergency management and preparedness organizations, and to engage the capabilities and strengths resident in the private sector.

National Preparedness

Of particular note in the reorganization, the new FEMA includes a new National Preparedness Directorate, which incorporates functions related to preparedness doctrine, policy and contingency planning. It also contains the exercise coordination and evaluation program, emergency management training, the Chemical Stockpile Emergency Preparedness Program and the Radiological Emergency Preparedness program.

Other FEMA Headquarters Elements

In addition to Preparedness, the new FEMA is sharpening our focus on building core competencies in logistics, operational planning, incident management and the delivery of disaster assistance. To this end, the new structure includes:

1. A *Logistics Management* Directorate to fulfill the mandate of the new HSA Section 636;
2. A *Disaster Assistance* Directorate incorporating elements of the current Recovery division; and
3. A *Disaster Operations* Directorate incorporating the existing FEMA Response Division and elements from the Preparedness Directorate's National Preparedness Task Force.

FEMA also maintains directorates that focus more clearly on broader issues of preparedness, protection and mitigation, including the *National Continuity Programs* Directorate (formerly Office of National Security Coordination), and the *Mitigation* Directorate.

I am pleased to report that FEMA has established a Disability Coordinator. The new position works with both the Disaster Assistance and Disaster Operations Directorate, ensuring that we incorporate considerations for the disabled in how we plan, respond and recover from disasters. Following consultation with appropriate groups including disability interest groups as well as State, local and tribal groups, we made a formal offer earlier this month and we are now awaiting final security clearances before announcing the start date for this newest member of our senior staff. The Disability Coordinator, who will report directly to the Administrator, is charged with assessing the coordination of emergency management policies and practices with the needs of individuals with disabilities, including training, accessibility of entry, transportation, media outreach, and general coordination and dissemination of model best practices, including evacuation planning. The Disability Coordinator will work closely with the Department's Office of Civil Rights and Civil Liberties.

The Act also required FEMA to establish a National Advisory Council. We expect to announce its membership very soon. They will be men and women from diverse backgrounds with related experience in emergency management that can contribute to our overall understanding of how we can best serve the American people. Similarly, our new structure includes a Small State and Rural Advocate who will serve as the voice for the fair treatment of small States and rural communities as we implement response and recovery policies.

FEMA also reorganized our internal management and support functions into offices that are better aligned to support our mission and to coordinate with our partners across all levels of government, with the non-profit community and with the private sector.

FEMA Regional Offices

Where the "rubber really meets the road" is in FEMA's regional offices. Having key leaders with the necessary experience and adequate resources to support their missions across the country is an important element of FEMA's reorganization. The ten Regional Administrators report directly to the Administrator and are supported by Regional Advisory Councils. The Regional Advisory Councils provide advice and recommendations to the Regional Administrators on regional emergency management issues and identify weaknesses or deficiencies in preparedness, protection, response, recovery and mitigation for State, local and tribal governments based on their specialized knowledge of the region. Today, we have filled all 10 of the Regional Administrator posts with men and women with 20 and 30 years of emergency management experience. We are also looking to improve operational capabilities in the regions. When established, Incident Management Assistance Teams (IMATs) will support the enhanced regions to provide 24 x 7 organic response capability that is dedicated full time to respond. When not deployed, these IMATs will train and enhance emergency management capabilities among our Federal, State, local and tribal partners. IMATs are discussed in more detail under "building FEMA's operational capabilities" section of this prepared statement.

The New FEMA – Planning and Operations and Their Impact On 2007

The result of these changes is a new FEMA that is better prepared for the future. We have a strong organization with strong leaders and dedicated men and women striving to serve those most in need. But these structural changes will not be meaningful unless matched with a similar change in FEMA's vision and goals. We are working diligently to reestablish America's trust and confidence in FEMA, and are focused on our vision to become the nation's preeminent emergency management and preparedness agency.

The guiding principle of this new FEMA is that we are leaning further forward to deliver more effective disaster assistance to individuals and communities impacted by a disaster. We call it "engaged partnership." That is the FEMA evident in the Florida, Georgia, and

Alabama tornadoes, the Nor'easter that affected the New England states and most recently in Kansas where the community of Greensburg was devastated by a tornado.

In these disasters FEMA was an engaged partner with the State within minutes of the disaster, immediately deployed operational and technical experts to the disaster site, started moving logistics and communications capabilities even before a disaster declaration and coordinated with the Governor to facilitate a Presidential disaster declaration. And, FEMA has supported and helped to facilitate an effective Unified Command with other Federal agencies, and State and local officials.

All of these actions were taken by a well led, motivated, and professional FEMA workforce that has embraced and enhanced the vision and reality of a new FEMA.

Early hurricane season projections indicate we can expect 17 named storms, including 9 hurricanes, of which 5 are expected to be major hurricanes. Predictions from the National Oceanic and Atmospheric Administration (NOAA) are scheduled to be released this week as part of the National Hurricane Preparedness Week activities. We must be prepared to respond to any such storm – whether it strikes our heartland or just skirts our shores. Even storms that don't make landfall impact our plans and activities.

FEMA is preparing for an active 2007 hurricane season by taking the following actions:

1. Establishing a heightened posture of hurricane preparedness;
2. Engaging our State and Federal partners in more thorough and informed hurricane planning; and
3. Building FEMA's operational capabilities to provide effective response and recovery.

Establishing a Heightened Posture of Hurricane Preparedness

FEMA is placing primary emphasis on strengthening the Federal-State partnership to better ensure we are able to achieve shared objectives for a safe, coordinated and effective response and recovery effort.

First, we are emphasizing the States' primary responsibility to provide for the safety and security of their citizens. The States must take the lead to ensure they and their local jurisdictions are prepared for hurricane season.

The State Emergency Management Agency coordinates the overall management of an emergency to include requests for support and resources from other State agencies, from other States under the Emergency Management Assistance Compact (EMAC), and for supplemental assistance from the Federal government. The EMAC process offers state-to-state assistance during Governor-declared states of emergency: EMAC offers a responsive and straightforward system for states to send personnel and equipment to help

disaster relief efforts in other states. When one State's resources are overwhelmed, other states can help to fill the shortfalls through EMAC.

The strength of EMAC and the quality that distinguishes it from other plans and compacts lies in its governance structure, its relationship with federal organizations, states, counties, territories, and regions, and the ability to move just about any resource one state has to assist another state.

Second, FEMA, by advancing the concept of engaged partnership, then stands shoulder-to-shoulder with the State—there to support, fill gaps, and help to achieve a successful response and recovery. In the past, our system was cued to sequential failure: where the State held back until the local jurisdiction was overwhelmed, and the Federal system held back until the State was overwhelmed. This approach, evident in the response to Katrina, caused delays in delivering support. Under "engaged partnership," FEMA has strengthened the relationship between FEMA Regional Administrators and State Emergency Managers to focus on more deliberate disaster planning. In preparation for this hurricane season, we have engaged each of the 18 hurricane impact States (Maine, New Hampshire, Rhode Island, Massachusetts, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas), the Commonwealth of Puerto Rico, and the Territories in a focused effort to identify strengths and weaknesses. We are engaging now in discussions with hurricane-prone States to better understand and address gaps, and develop mitigation strategies to ensure successful response and recovery. FEMA is prepared to allocate commodities and enlist the assistance of other departments and agencies as needed to ensure a strong response to a State's call for assistance. And, as a result of our joint planning, we can anticipate a State's needs and be more able to quickly provide support.

Third, FEMA has extended our reach across the span of Federal agencies to ensure the smooth and responsive coordination of Federal support when it is needed. The most visible demonstration of that coordination is the array of Federal capabilities contained in our "playbook" of pre-scripted mission assignments. This playbook represents an examination of the range of Federal support that may be requested in response to a disaster. It also includes advance inter-agency coordination to ensure delivery of that capability when it might be called upon in time of need. At present, we have gained approval for 103 separate forms of assistance and are reviewing 85 potential pre-scripted mission assignments over a span of 21 Federal agencies. This support ranges from heavy-lift helicopters from DOD, to generators from the U.S. Army Corps of Engineers, to Disaster Medical Assistance Teams from HHS and Emergency Road Clearing Teams from the U.S. Forest Service. These pre-scripted mission assignments will result in more rapid and responsive delivery of Federal support to States.

Disaster response support is coordinated through one or more of the National Response Plan's (NRP) 15 Emergency Support Functions (ESFs). The ESFs serve as the primary

operational-level mechanism supporting FEMA in providing State and local disaster assistance in functional areas such as transportation, communications, public works and engineering, firefighting, mass care, housing, human services, public health and medical services, search and rescue, agriculture, and energy. The signatories to the NRP provide substantial disaster response assistance in their areas of expertise and provide operational support for FEMA when assigned missions to support the disaster response. In addition, FEMA can surge its own teams and assets into an area in anticipation of an approaching storm or event that is expected to cause a significant impact and result in a declared emergency or major disaster and can turn to other DHS components such as the U.S. Coast Guard for assistance. The surge capability allows FEMA to position assets prior to the event to enable a quick response, but actual assistance cannot be provided until the Governor requests and the President approves a disaster declaration.

Within the first 72 hours after the tornado devastated Greensburg, Kansas, FEMA coordinated the efforts of numerous Federal agencies in their ESF roles under the NRP. For example, the DHS/National Communication System (ESF 2) worked with the State and local officials to reestablish communications infrastructure, advising local government as necessary, and providing needed technical assistance. The U.S. Army Corps of Engineers (ESF 3) management team for critical facility restoration planning was on-site providing technical assistance to state and local government. Additionally, Mobile Emergency Response Support (MERS) in the form of 13 small Mobile Emergency Operations Vehicles (MEOVs) and one large MEOV were deployed to Greensburg for communications and command and control support. The larger MEOV was provided to serve as the Unified Command Post.

To further strengthen our partnerships, FEMA is actively engaging with State governments and other Federal partners in joint exercises as we prepare for the 2007 Hurricane Season. During the first week in May, FEMA tested the national incident management system and its response operations during an exercise called Ardent Sentry - Northern Edge, which depicted a Category 3 hurricane that struck Newport, Rhode Island.

Engaging with State and Federal Partners in More Thorough and Informed Preparedness Planning

As we approach the 2007 Hurricane Season, FEMA is a taking a three-tiered approach to planning. First, we are engaging each of the 18 hurricane impact States, the Commonwealth of Puerto Rico, and the Territories in focused hurricane planning. This includes employing a Gap Analysis Tool that will inform the planning process. Second, we are providing specific attention to the Gulf Coast States pursuing for the first time regional development of a Gulf Coast Evacuation Plan. Third, we are pursuing specific planning efforts with our partners in the State of Louisiana, in recognition of their fragile condition following the devastation of Hurricane Katrina. Last, we are also focusing Catastrophic Disaster Response Planning on Southeast Louisiana and the State of Florida.

Hurricane Gap Analysis

FEMA is working with hurricane prone States and conducting gap analyses that serve as the basis for better understanding vulnerabilities in a more consistent manner. The Gap Analysis Tool, developed in coordination with the State of New York Emergency Management Office/New York City Office of Emergency Management, is being used to provide FEMA and its partners at both the State and local levels in the hurricane-prone regions of the country with a snapshot of asset gaps at the National, State and local levels.

The initiative is a joint effort between State Emergency Management representatives and FEMA Regional representatives to conduct a series of structured discussions with local jurisdictions to better understand potential disaster response asset gaps in the critical areas of debris removal, evacuation, sheltering, interim housing, healthcare facilities, commodity distribution, communications, and fuel. The discussions are providing an opportunity for local jurisdictions to ask specific questions of Federal and State officials and identify issues of critical concern to help long-term preparedness programs.

Specific gaps are determined by identifying a series of requirements in each critical area within each location and then subtracting the corresponding capabilities for meeting those requirements for each location. By June 1, 2007, the data will be compiled for the jurisdictions within the hurricane-prone States, reviewed, and then incorporated into FEMA's planning efforts. Although our initial use of this method is being applied for the upcoming hurricane season, this process is applicable to all hazards and the goal is to build upon lessons learned and apply the tool to all locations for all hazards on an ongoing basis.

The new FEMA has made a conscious effort to focus broadly on all 18 hurricane-prone States, the Commonwealth of Puerto Rico, and Territories to prepare for the 2007 Hurricane Season. Today, FEMA is working closely with each of the 18 state emergency management communities in hurricane-prone states using a consistent set of measures and tools to evaluate strengths and vulnerabilities.

Modeling is also an essential element of FEMA's planning efforts for different circumstances. FEMA is coordinating with the DHS Science and Technology (S&T) Directorate to adapt modeling tools to large metropolitan areas. For example, many tools utilize a standard figure for population per square mile, often resulting in skewed data for areas with high-rise apartment buildings. The work with S&T is focusing on adapting these modeling tools to urban environments.

As the use of the Hurricane Gap Analysis Tool becomes more mature, FEMA plans to incorporate additional modeling capabilities to validate the data received and to forecast needs based on different variables. FEMA's current hurricane planning efforts rely

heavily on existing modeling tools such as:

- HurrEvac (Hurricane Evacuation) to enable tracking hurricanes and assist in evacuation decision making;
- NOAA's SLOSH (Sea, Lake and Overland Surges from Hurricanes) to enable estimates of storm surge heights and winds resulting from historical, hypothetical, or predicted hurricanes by taking into account pressure, size, forward speed, track, and winds;
- HAZUS (Hazards U.S.) established by FEMA to assess risk and forecast losses based on population characteristics and buildings;
- The US Army Corps of Engineers modeling tools which rely on geospatial capabilities to provide estimates of debris volumes; water, ice, and commodity needs; and the number of people within the households likely within hurricane force winds; and
- NISAC (National Infrastructure Simulation and Analysis Center) advanced modeling and simulation capabilities to analyze critical infrastructure interdependencies and vulnerabilities.

Gulf Coast State Evacuation Plan

FEMA is helping Louisiana, Mississippi and Alabama develop a Gulf Coast Evacuation Plan that extends to adjacent States who may host Gulf Coast evacuees. The purpose of this effort is to synchronize separate State evacuation plans to create a more jointly organized effort. Teams are engaging with each State, identifying requirements and capabilities, and then will work to develop a plan that integrates shelter planning with transportation planning. The result will be a timelier, better organized and coordinated evacuation by those with their own transportation and those who need assistance to evacuate by bus or air.

Coordinating with Louisiana

Recognizing Louisiana's continuing fragile situation, we are collaboratively assessing requirements, State capabilities and the potential need for Federal assistance. Louisiana is better prepared than last year—by applying lessons learned and investing some of their resources - but still needs assistance in finding shelter space in adjacent States, ensuring sufficient transportation resources to conduct a timely and effective evacuation, positioning commodities, and caring for those with critical medical needs.

Catastrophic Disaster Planning Initiatives

We are also working with 13 southeastern Louisiana parishes (including the City of New Orleans), which were selected as the initial geographic focus area for FEMA's "Catastrophic Planning" initiative, because of their vulnerability to hurricane disasters.

Substantial planning activity continues with the State of Louisiana and its parishes in planning and preparing for the 2007 Hurricane Season.

In addition, FEMA is using scenario-driven workshops to enhance the State of Florida's capability to respond to a Category 5 Hurricane making landfall in Southern Florida. This is a two-phased project. Phase 1 focuses on developing regional response and recovery plans, including evacuation planning, for the counties and communities surrounding Lake Okeechobee (in the event of failure of the Herbert Hoover Dike) and will be completed by the beginning of the 2007 Hurricane Season. Phase two will address the effects of a Category 5 hurricane striking south Florida. The end product for phase two will be standardized and comprehensive catastrophic Category 5 hurricane disaster functional response and recovery plans for the State of Florida and responding Federal agencies. Phase two will be completed by September 30, 2008. These plans will be used as planning templates for other large urban areas also.

Next, it is important to understand what FEMA is doing to build its operational capabilities to improve its response and recovery capabilities in support of State and local efforts.

Building FEMA's Operational Capabilities to Provide Effective Response and Recovery

In addition to the many action items already described to better prepare for the 2007 Hurricane Season, FEMA's comprehensive strategy for improving its disaster response efforts includes a 2007 Hurricane Contingency Plan, a new operational planning unit, an Interagency Agreement with Defense Logistics Agency, Total Asset Visibility, a new generation of response assistance teams, and mass evacuation planning.

2007 Hurricane Contingency Plan (CONPLAN)

The 2007 Hurricane CONPLAN provides the operational incident management framework to prepare for, respond to, recover from, and mitigate the effects of hurricanes impacting the United States. The CONPLAN provides guidance on actions that will be executed by Federal Departments and Agencies.

This document was developed in collaboration with all of FEMA's National Response Plan partners for the Emergency Support Functions-- or "ESFs"-- and addresses the coordinated national-level Federal preparedness, response and initial recovery operations that will be used to support State, local, Territorial and Tribal government entities impacted by a hurricane or tropical storm.

New Operational Planning Unit Capabilities

FEMA is hiring staff for its new Operational Planning Unit (Planning Unit). Located in FEMA's Headquarters, the Planning Unit will provide sophisticated operational analyses. With the new staff, FEMA is building its core planning competency that will possess greater depth of experience and more capability to perform critical disaster response operational analyses, prepare operational plans, and conduct crisis action planning to ensure that the Agency can lead, coordinate and support a national all-hazard emergency management response.

Specifically, the Operational Planning Unit will—

- Provide National and Regional operational planning guidance and coordination;
- Coordinate at the operational level the execution of all hazard contingency plans;
- Provide forecasting and analysis of potential events;
- Assist FEMA Regions in operational planning at the regional level; and
- Lead the development of DHS and FEMA hazard-specific contingency plans.

Eventually, planners will also be hired for the Regions to provide this capability to those specific areas.

FEMA/DLA Interagency Agreement

FEMA and the Defense Logistics Agency (DLA) have entered into a collaborative partnership, via an Interagency Agreement, to optimize the planning, ordering, storing and replenishing of certain commodities such as emergency meals and fuel, and develop a road map for larger scaled supply chain initiatives.

The FEMA/DLA partnership has improved FEMA's immediate response and logistics capabilities by reducing the acquisition and distribution time, as well as the replenishment lead-time. The partnership has also improved FEMA's day-to-day supply chain operations by creating repeatable, sustainable processes for planning and execution at the strategic, operational and tactical levels. Through this agreement DLA will procure, maintain, transport, and stage commodities. DLA currently provides visibility of all commodities shipped to disaster locations, logistic centers or other locations as directed, from the initial receipt of the order until ownership passes to FEMA.

TAV Program

FEMA Logistics has identified areas for improving its end-to-end supply chain to deliver critical supplies at the right time, in the right quantity and to the right location. FEMA is implementing industry best practices for supply chain management and an automated system that is improving information flow by providing real-time visibility into orders and shipment of critical supplies during emergency response efforts. The

Total Asset Visibility (TAV) Program oversees, directs and manages the design and implementation of an initial capability pilot system to monitor and view the orders and movement of select commodities which was launched during the 2006 hurricane season.

Currently, the TAV Program provides FEMA with the ability to (1) manage and view orders and inventory of select commodities and (2) track the location of trailers carrying the commodities distributed from the FEMA Logistics Centers (LCs) and select vendors to field sites. The long-term vision for the TAV Program is to engage external emergency management stakeholders – from state, local and tribal governments and other federal agencies to non-government agencies and vendors – in the entire FEMA supply chain. These activities cover requests for critical supplies to tracking shipments and delivery to people in need during times of emergency. Stakeholders would have real-time visibility into the status of requests and locations of shipments in transit.

FEMA recognizes that certain types of resources may be required immediately after a disaster by State and local governments in order for them to adequately respond. If State or local governments, and State partners, are unable to supply these resources, then FEMA will coordinate the provision of Federal commodities to ensure that resources are in place in order to supplement State and local response efforts during the immediate phase of response activities. FEMA has initiated the Pre-Positioned Disaster Supply (PPDS) program to position life-saving and life sustaining disaster equipment and supplies in modular containers as close to a potential disaster sites as prudent, in order to substantially reduce the initial response time to incidents.

Enhanced Response Teams

FEMA is developing the next generation of rapidly deployable interagency emergency response teams, tentatively identified as Incident Management Assistance Teams ("IMATs"). These teams will support the emergent needs of State and local jurisdictions; possess the capability to provide initial situational awareness for Federal decision-makers; and support the initial establishment of a unified command. These teams will ultimately provide the three national-level response teams and regional-level emergency response "strike" teams required by the Post Katrina Emergency Management Reform Act of 2006.

The teams are still being designed and decisions on team assets, equipment, and expected capabilities have not yet been finalized. FEMA's goal is to establish interim Regional and National teams using existing personnel within FEMA. The teams will subsume the existing mission and capabilities of the Federal Incident Response Support Teams (or "FIRSTs") and Emergency Response Teams (or "ERTs"). The mission and capabilities will incorporate similar leadership, emergency management doctrine, and operational communications concepts. The national-level and regional-level teams will eventually be staffed with a core of full-time employees, unlike the ERTs, which are staffed on a

collateral duty basis; will be fully compliant with NIMS and ICS; and will train and exercise as a unit.

Principal Federal Officials

A Principal Federal Official (PFO) may be designated to represent the Secretary of Homeland Security. The PFO ensures that overall Federal domestic incident management efforts are well coordinated and effective. The PFO does not direct or replace the incident command structure, nor does the PFO have directive authority over other Federal and State officials. For example, during a terrorist incident, the local FBI Special Agent-in-Charge coordinates with other members of the law enforcement community and works in conjunction with the PFO.

The PFO is one member of the JFO Coordination Group. This group also includes either an FCO, who manages and coordinates Federal resource support activities related to Stafford Act disasters and emergencies, or a Federal Resource Coordinator, who performs similar functions for incidents that do not involve Stafford Act declarations. Depending on the incident, other agency officials are added to the Coordination Group, such as the Senior Federal Law Enforcement Official.

Mass Evacuation Incident Annex to the National Response Plan

As part of incorporating lessons learned from Hurricane Katrina, a Mass Evacuation Incident Annex to the NRP is under development. The Mass Evacuation Incident Annex will provide an overview of evacuation functions and agency roles and responsibilities. It also will provide overall guidelines to enable evacuation of large numbers of people in incidents requiring a coordinated Federal response through the NRP ESFs. This annex will describe how Federal support resources are integrated into State, local, and tribal efforts. Communication linkage to sheltering facilities, special needs of evacuees, and addressing the need for evacuation of both companion and service animals are just a few of the issues reflected in this annex.

Improved Delivery of Disaster Assistance

FEMA is making significant progress in improving its disaster assistance as well. FEMA's Disaster Assistance Directorate's planning and capability building initiatives include enhancing mass care capability by improving the National Shelter System and developing better tools for coordinating and tracking donations and volunteers; greatly increasing disaster victim registration capabilities while enhancing protections against waste, fraud and abuse; developing a national disaster housing strategy and improving operational planning for providing temporary housing in a catastrophic disaster;

establishing a case management program; updating ESF 6 Mass Care, Housing, and Human Services standard operating procedures; developing debris estimation technology and monitoring methodology and enhancing state and local debris operations capabilities; and, improving our capability to conduct operations planning for long term disaster operations.

Emergency Evacuation, Shelter, and Housing

FEMA's most pressing priorities for planning for recovery from a catastrophic disaster event has been *emergency evacuation, shelter and housing*. In 2004, FEMA completed an initial Catastrophic Disaster Housing Strategy, which proposed several initiatives to increase FEMA's capability to provide assistance to individuals and households following an extraordinary or catastrophic disaster. The strategy provided the principles and recommended strategies that establish the framework for the catastrophic disaster housing recovery planning being done today. Key needs identified at that time included: an expandable disaster registration intake and applicant assistance process; the ability to provide immediate benefits payments; a plan for assisting applicants to temporarily relocate to outside the disaster area; and a strategy and prepared public messages to provide victims with information about assistance.

- **Mass Evacuee Support Planning**: The 2005 Gulf Coast hurricanes caused several hundred thousand residents to evacuate to over forty States, many for prolonged time periods. Cities such as Houston, Oklahoma City, Atlanta, and Baton Rouge received hundreds of thousands of evacuees requiring immediate shelter, food, other basic assistance, as well as longer term services. In June 2006, FEMA published Recovery Strategy RS-001, Mass Sheltering and Housing Assistance. This strategy addresses many contingencies for providing sheltering and housing assistance for declared emergencies and major disasters. In addition, FEMA is undertaking more detailed mass evacuee support planning. This will assist State and local governments to plan and prepare for hosting large displaced populations. The project includes FEMA developing an evacuee registration and tracking capability, implementation plans for federal evacuation support to states, emergency sheltering guidance and providing direct planning assistance to potential host States and communities.

- **The National Emergency Family Registry and Locator System and National Emergency Child Locator Center:** As defined in the Post Katrina Act, these capabilities will address the reunification of displaced persons and activity to locate missing children during disasters. For disasters declared by the President, this tracking capability will assist FEMA, Department of Justice and the American Red Cross in further developing and implementing methods for quickly identifying and reunifying missing and separated children and family members during a disaster.

- **Improving Shelter Management and Accountability**: FEMA and the American Red Cross, the nation's largest operator of major congregate shelters during disasters, are working together to implement the National Shelter System. The first phase of the National Shelter System (NSS) was developed through a FEMA/American Red Cross partnership to provide a web-based data system to support shelter management, reporting, and facility identification activities. The system is intended for use by all agencies that provide shelter services during disasters to ensure a comprehensive understanding of the shelter populations and available shelter capacity. In addition, this system will provide visibility on large shelter populations and position FEMA to provide targeted registration assistance to disaster victims. Outreach and training for Federal, State, and local authorities in use of the system is being conducted.

- **Housing Options**: The FEMA Housing Portal was developed to consolidate available rental resources for evacuees from Federal agencies, private organizations, and individuals. The Joint Housing Solutions Group is a dedicated unit to research and document alternatives to traditional temporary housing. They are currently conducting initial baseline field tests of a housing option assessment tool.

- **Expanding Home Inspections Capacity:** FEMA has increased the daily home inspection capacity of FEMA contracted firms from 7,000 per day to 40,000 per day through a new contractual agreement. This added capacity – combined with a newly established third party evaluation of inspections performed on victims' damaged homes – will increase the speed and accuracy of home inspections that determine the FEMA repair and replacement grants for which a victim may be eligible.

Applicant Registration and Management

In 2006 and 2007 FEMA has focused its Recovery planning and capability building efforts on improving applicant management systems, expanding registration intake and processing capacity, increasing fraud controls, supporting displaced populations, identifying alternative forms of temporary housing, and debris management planning. FEMA has made significant progress in increasing its capability to provide assistance to individuals particularly in the areas of registration, applicant processing, and providing assistance.

- **Doubling Registration Capacity to 200,000 Per Day**: During the days and weeks following Hurricanes Katrina and Rita, FEMA surpassed 100,000 registrations a day, shattering all previous records of intake. While call center capacity was increased to its highest levels ever, FEMA is pursuing even more robust contract and contingency surge capabilities that will quickly allow for

rapid expansion to a registration intake capacity of up to 200,000 per day. FEMA's Internet-based registration capability has been increased by improving accessibility, allowing FEMA to handle more registrations than ever before. This will help reduce registration wait times and FEMA Helpline information delays following a major disaster.

- **Deployable Mobile Registration Intake Centers (MRICs) Pilot**: Recognizing many disaster victims may be stranded or in congregate shelters with no communications, and unable to register for assistance, FEMA has established a new registration pilot program that pushes registration capabilities directly into the field. In the 2007 hurricane season FEMA will have the ability to deploy Mobile Registrations Intake Centers immediately to congregate shelters and provide an on-site capability to quickly register for FEMA assistance.

Debris Management Planning

Management of contaminated debris is of particular concern for terrorist events, but is also an issue in most large natural disasters. An Interagency Work Group to coordinate Federal agency management of contaminated debris began work in 2005 just prior to Hurricane Katrina. The Work Group is further developing Federal contaminated debris operational procedure guidance. This project is analyzing the implications of a catastrophic incident on contaminated debris management programs and policies and will assist FEMA, USACE, EPA, USCG, and other federal stakeholders to better define their operational role and inter-relationships. FEMA's Public Assistance Program is also undertaking two catastrophic planning initiatives focusing on increasing State and local debris management capabilities through planning and enhancing Federal capabilities to estimate debris volumes following a disaster to assist in operational planning and cost estimation.

Increasing Fraud Controls

FEMA has also taken steps to implement new and stronger controls pertaining to identity and occupancy verification of applicants for disaster assistance. Examples of controls implemented include: deployment of a new Internet registration application that disallows any duplicate registrations; added identity proofing to the call center registration application so that all Individual and Households Program (IHP) registrations are subjected to the same stringent criteria, including verification of social security numbers and occupancy requirements; data-marking any applications in FEMA's database that fail identity proofing so they are flagged for manual review and denied automated payment; real-time interaction between the FEMA Service Representative and the applicant during registration to ensure the data entered that resulted in a failed identity check is correct before accepting the application; working with FEMA's data contractor to flag any addresses that are not residential addresses in order to prevent automated payments without an on-site inspection verification of address and residency; and flagging at-risk social security numbers to identify potential fraud.

Conclusion

I believe we have made real progress at FEMA and are prepared for the 2007 Hurricane Season. Our reorganization efforts—based on our internal transformation and the implementation of PKEMRA—will bear fruit across our disaster operations and assistance programs. Today, I have focused on how FEMA's reorganization has contributed to:

1. Establishing a heightened posture of hurricane preparedness;
2. Engaging our State and Federal partners in more thorough and informed hurricane planning; and,
3. Building FEMA's operational capabilities to provide effective response and recovery.

But, there is a lot more going on inside FEMA that will contribute to enhanced performance and organizational success.

Although all disasters are local, FEMA must play a more proactive role in understanding vulnerabilities so we can assist the localities in being better prepared to respond. And, as I hope you can see by today's testimony—we are. By leaning further forward to coordinate the federal response, we can better serve all Americans.

Today, FEMA:

- Has a stronger structure in place – and will continue to improve our organization through planning, training and the hiring of experienced and dedicated staff,
- Has created engaged partnerships in support of State and local governments,
- Has supported and helped to facilitate an effective unified command with other Federal agencies, and State and local officials,
- Has engaged with hurricane-prone states to gain a better understanding of their vulnerabilities,
- Has improved logistics and communications capabilities to improve response, and
- Enhanced Disaster Assistance capabilities for recovery efforts.

Of course, we are not done yet. There is still much work to do.

But if our progress over the past year is any indication, I believe we are on the right track to fulfilling our vision to become the nation's preeminent emergency management and preparedness agency.

I am especially proud of the men and women who work at FEMA. They have put their hearts and souls into rebuilding this agency. The men and women of FEMA are dedicated to the mission of disaster and victim recovery, and staunchly committed to improving the speed, efficiency, and accountability with which we perform that mission. That commitment is not only to the victims and communities of those disasters that we expect to face in the future, but to those victims and communities still struggling with the personal, professional, and social consequences and challenges of past disasters.

Thank you for your continued support and the opportunity to discuss how FEMA is preparing for the 2007 Hurricane Season. I look forward to answering any questions you may have.

The Washington Post

April 29, 2007 Sunday
Correction Appended
Met 2 Edition

Most **Katrina** Aid From Overseas Went Unclaimed

BYLINE: John Solomon and Spencer S. Hsu; Washington Post Staff Writers

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As the winds and water of Hurricane **Katrina** were receding, presidential confidante Karen Hughes sent a cable from her State Department office to U.S. ambassadors worldwide.

Titled "Echo-Chamber Message" -- a public relations term for talking points designed to be repeated again and again -- the Sept. 7, 2005, directive was unmistakable: Assure the scores of countries that had pledged or donated aid at the height of the disaster that their largesse had provided Americans "practical help and moral support" and "highlight the concrete benefits hurricane victims are receiving."

Many of the U.S. diplomats who received the message, however, were beginning to witness a more embarrassing reality. They knew the U.S. government was turning down many allies' offers of manpower, supplies and expertise worth untold millions of dollars. Eventually the United States also would fail to collect most of the unprecedented outpouring of international cash assistance for **Katrina's** victims.

Allies offered $854 million in cash and in oil that was to be sold for cash. But only $40 million has been used so far for disaster victims or reconstruction, according to U.S. officials and contractors. Most of the aid went uncollected, including $400 million worth of oil. Some offers were withdrawn or redirected to private groups such as the Red Cross. The rest has been delayed by red tape and bureaucratic limits on how it can be spent.

In addition, valuable supplies and services -- such as cellphone systems, medicine and cruise ships -- were delayed or declined because the government could not handle them. In some cases, supplies were wasted.

The struggle to apply **foreign aid** in the aftermath of the hurricane, which has cost U.S. taxpayers more than $125 billion so far, is another reminder of the federal government's difficulty leading the recovery. Reports of government waste and delays or denials of assistance have surfaced repeatedly since hurricanes **Katrina** and Rita struck in 2005.

Administration officials acknowledged in February 2006 that they were ill prepared to coordinate and distribute **foreign aid** and that only about half the $126 million received had been put to use. Now, 20 months after **Katrina**, newly released documents and interviews make clear the magnitude of the troubles.

More than 10,000 pages of cables, telegraphs and e-mails from U.S. diplomats around the globe -- released piecemeal since last fall under the Freedom of Information Act -- provide a fuller account of problems that, at times, mystified generous allies and left U.S. representatives at a loss for an explanation. The documents were obtained by Citizens for Responsibility and Ethics in Washington, a public interest group, which provided them to The Washington Post.

In one exchange, State Department officials anguished over whether to tell Italy that its shipments of medicine, gauze and other medical supplies spoiled in the elements for weeks after **Katrina's** landfall on Aug. 29, 2005, and were destroyed. "Tell them we blew it," one disgusted official wrote. But she hedged: "The flip side is just to dispose of it and not come clean. I could be persuaded."

In another instance, the Department of Homeland Security accepted an offer from Greece on Sept. 3, 2005, to dispatch two cruise ships that could be used free as hotels or hospitals for displaced residents. The deal was rescinded Sept. 15 after it became clear a ship would not arrive before Oct. 10. The U.S. eventually paid $249 million to use Carnival Cruise Lines vessels.

And while television sets worldwide showed images of New Orleans residents begging to be rescued from rooftops as floodwaters rose, U.S. officials turned down countless offers of allied troops and search-and-rescue teams. The most common responses: "sent letter of thanks" and "will keep offer on hand," the new documents show.

Overall, the United States declined 54 of 77 recorded aid offers from three of its staunchest allies: Canada, Britain and Israel, according to a 40-page State Department table of the offers that had been received as of January 2006.

"There is a lack of accountability in where the money comes in and where it goes," said Melanie Sloan, executive director of the public interest group, which called for an investigation into the fate of **foreign aid** offers. She added: "It's clear that they're trying to hide their ineptitude, incompetence and malfeasance."

In a statement, State Department spokesman Tom Casey said that the U.S. government sincerely appreciated support from around the world and that **Katrina** had proved to be "a unique event in many ways."

"As we continue our planning for the future, we will draw on the lessons learned from this experience to ensure that we make the best use of any possible foreign assistance that might be offered," Casey said.

Representatives of foreign countries declined to criticize the U.S. response to their aid offers, though some redirected their gifts.

Of $454 million in cash that was pledged by more than 150 countries and foreign organizations, only $126 million from 40 donors was actually received. The biggest gifts were from the United Arab Emirates, $100 million; China and Bahrain, $5 million each; South Korea, $3.8 million; and Taiwan, $2 million.

Bader Bin Saeed, spokesman for the Emirates Embassy in Washington, said that in future disasters, "the UAE would not hesitate to help other countries, whether the U.S. or any other state, in humanitarian efforts."

Kuwait, which made the largest offer, pledged $100 million in cash and $400 million in oil. But the Kuwaitis eventually gave their money to two private groups: $25 million to the Bush-Clinton **Katrina** Fund, a project of the former presidents, and another $25 million to the American Red Cross in February 2006. They still plan

to contribute another $50 million, said the Kuwaiti ambassador to the United States, Salem Abdullah al-Jaber al-Sabah.

"It was based on my government's assessment of the fastest way to get money to the people that needed it," he said. "The Red Cross was on the ground and action-oriented."

In the White House's February 2006 **Katrina** report, U.S. officials said Kuwait's $400 million oil donation was to be sold for cash. Sabah said it was an in-kind pledge made when it appeared that U.S. refining capacity was devastated and that the American public would need fuel.

"We have to see what we have to do with that. When you pledge something in-kind, your intention is to give it in-kind. I do not think now the American people are in need of $400 million of fuel and fuel products," he said.

Of the $126 million in cash that has been received, most has not yet been used. More than $60 million was set aside in March 2006 to rebuild schools, colleges and universities, but so far, only $10.4 million has been taken by schools.

Half the $60 million was awarded last fall to 14 Louisiana and Mississippi colleges, but five have not started to claim the money. Only Dillard University in Louisiana and Mississippi Gulf Coast Community College have tapped their full awards, worth $6 million, U.S. Education Department officials said Friday.

Another $30 million was sent to Orleans, St. Bernard and Plaquemines parishes in Louisiana and to the state-run Recovery School District in New Orleans to build libraries, laboratories and other facilities for 130 public schools.

But none of that money has been used yet, said Meg Casper, spokeswoman for the Louisiana Department of Education. Allocations were just approved by the state board last week, she said, "so the money should start to flow."

The first concrete program officials announced in October 2005 -- a $66 million contract to a consortium of 10 faith-based and charity groups to provide social services to displaced families -- so far has assisted less than half the 100,000 victims it promised to help, the project director said.

The group, led by the United Methodist Committee on Relief, has spent $30 million of the money it was given to aid about 45,000 evacuees. Senate investigators are questioning some terms in the contract proposal, including a provision to pay consultants for 450 days to train volunteers for the work the committee was paid to do.

Jim Cox, the program director, said that the project is "right on track" but that its strategy of relying on volunteers foundered because of burnout and high turnover. He acknowledged that more people need help than are receiving it and said the program will be extended to March to use available funds.

"The resources aren't there, but these resources certainly are coming," Cox said.

CORRECTION: An April 30 Page One article on **foreign aid** after Hurricane **Katrina** incorrectly said that a consortium led by the United Methodist Committee on Relief had provided social services to 45,000 individual disaster victims up to that point, less than half the 100,000 victims it promised to help. The group has provided services to 49,709 families, not individuals, short of its goal of 100,000 families.

Question#:	1
Topic:	IMPT
Hearing:	Implementing FEMA Reform: Are we prepared for the 2007 Hurricane season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: The Post-Katrina Emergency Management Act (the "Post-Katrina Act") put preparedness and response back together again, giving FEMA responsibility for preparedness and response, including for establishing our National Preparedness System, which includes developing national planning scenarios, and for catastrophic planning. However, a DHS office outside of FEMA – the Incident Management Planning Team (IMPT), a part of the Directorate of Operations Coordination, is coordinating the National Planning Scenarios and creating plans for the National Planning Scenarios in collaboration with other federal agencies. Given the intent of the Post-Katrina Act to join preparedness and response and the role given to FEMA in the Post-Katrina Act, why isn't FEMA leading the creation of these plans?

Answer:
The ongoing efforts of the interagency Incident Management Planning Team (IMPT) and the planning functions being developed at FEMA are consistent with the terms of last year's Post-Katrina Act as well as other pre-existing critical homeland security authorities, including, but not limited to, the Homeland Security Act of 2002 (HSA) and Homeland Security Presidential Directive-5 (HSPD-5). In response to a specific recommendation made by the White House in its February 2006 report, *The Federal Response to Hurricane Katrina: Lessons Learned*, the Secretary of Homeland Security (SECDHS) created the IMPT within the Office of Operations Coordination in August of 2006 to provide national/strategic level planning support in order to facilitate the Secretary of Homeland Security's ability to execute his unique interagency responsibilities as articulated in the HSA and HSPD-5 (e.g., serving as the principal federal official for domestic incidents). Since its creation, the IMPT has been developing strategic-level concept plans for the 15 Planning Scenarios as directed by the HSC.

Consistent with the intent of the Post-Katrina Act, DHS is conducting deliberate strategic planning through the IMPT and operational planning through the FEMA Operational Planning Unit (OPU).

The IMPT conducts strategic planning at the National level, specific to a threat or hazard but not to a particular geographic area or timeframe. These DHS strategic plans, called Federal Interagency Strategic Plans, provide planning guidance, roles and missions, planning priorities, National Critical Information Requirements, resource priorities, and reporting requirements. For example, the IMPT will produce a Federal Hurricane Interagency Strategic Plan.

Question#:	1
Topic:	IMPT
Hearing:	Implementing FEMA Reform: Are we prepared for the 2007 Hurricane season?
Primary:	The Honorable Joseph I. Lieberman
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FEMA OPU is deeply involved in standing up a planning capability. FEMA will utilize the NOC Planning Element's Federal Interagency Strategic Plans in order to lead the interagency planning effort to create comprehensive "operational" plans that is specific to particular geographic area and timeframe. These operational plans will be consistent with the Federal Interagency Strategic Plans, but incorporate the next level of details required in an operational plan, including items such as timelines, operational phasing, operational performance thresholds, detailed logistical support tasks, and command and control infrastructure and key nodes. For example, FEMA will create several supporting operational plans to the Federal Hurricane Interagency Strategic Plan that address hurricanes in the Southeast, the Western Gulf of Mexico, the Mid-Atlantic, the Northeast, and the West Coast.

FEMA's unique emergency management role, to include oversight of the Emergency Support Planning (ESF) functions, its direct links to various state and local planning entities, and its new functions identified in the Post-Katrina Act, facilitates the Secretary of Homeland Security's ability to carry out his unique interagency domestic incident management responsibilities.

Question#:	2
Topic:	IMPT coordination
Hearing:	Implementing FEMA Reform: Are we prepared for the 2007 Hurricane season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: How does the IMPT intend to coordinate the plans it develops with FEMA's disaster operations directorate and planning group who are responsible for actually managing disasters and catastrophes?

Answer:
The Incident Management Planning Team (IMPT) currently coordinates all plans with FEMA's existing and developing planning entities through the permanent FEMA personnel assigned to the IMPT. FEMA currently has two senior staff at the GS-15 level detailed to the IMPT's permanent staff who have been involved since its inception. These two individuals ensure that FEMA requirements and equities are integrated into all IMPT plans. In addition, the IMPT is working closely to assist FEMA in its efforts to develop many of the new planning capabilities identified in the Post-Katrina Act. For example, the IMPT developed the National Planning and Execution System (NPES), which is a formal curriculum-based planning process used by the IMPT, and has trained several FEMA planners - as well as 500 members of the interagency - to employ this process.

It is important to note that numerous entities and personnel at all levels of government, to include the Secretary of DHS, play vital roles in managing disasters. The interagency coordination requirements of domestic incident planning and operations are extensive and require professional planners at all levels who understand their roles and how they complement each other. The IMPT and FEMA planners, as well as other planning entities, must continue to find ways, such as national and regional exercises, to coordinate and synchronize their planning efforts to ensure the Federal government is as prepared as possible to address major incidents.

Question#:	3
Topic:	Post Katrina Act
Hearing:	Implementing FEMA Reform: Are we prepared for the 2007 Hurricane season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: The Post-Katrina Act brought all homeland security grants to state and local governments within FEMA. In doing so, the Post-Katrina Act furthers two purposes. First, it maintains and builds upon the idea of a "one-stop shop" for grants – a single office that state and local governments could contact with questions about any and all grants for which they might be eligible. Second, it provides FEMA with the ability to look across grant programs to ensure the guidance they provide and the requirements they impose are consistent and, most importantly, that the grants awarded work together to foster overall preparedness. Similarly, in a recent briefing with Committee staff, a DHS representative stated that with respect to a number of infrastructure protection grants – including transit, port security and buffer zone protection grants – that other agencies within DHS had "programmatic" responsibility for these grants, and that FEMA was responsible only for the "process component" of the grants, such as administering the mechanics of the application. It makes sense, of course, that FEMA should look to TSA and the Coast Guard for subject matter expertise on matters such as transit security and port security, respectively, but such consultation does not vitiate the need for a single agency to be ultimately responsible for ensuring the effective, coordinated use of all homeland security grant funds to states and localities. Please explain in greater detail what your view is of the respective role of FEMA and other components in the Department in administering homeland security grants. What actions has or will DHS leadership take to ensure that the grants office in FEMA functions as a one-stop shop and that FEMA is able to exercise its authority to ensure coordination among all preparedness grants? How will FEMA ensure that each of the Department's grants to a single geographic area work synergistically to promote preparedness?

RESPONSE:

With the inclusion of the former Office of Grants and Training (G&T) into the Federal Emergency Management Agency (FEMA), the Department has strengthened its ability to provide a "one stop shop" for grants to both State and local jurisdictions. This reorganization placed terrorism, all-hazard, and mitigation grants within the same agency, and will bring further information sharing and collaborative efforts to all parts of the Department. FEMA's National Preparedness Directorate administers several grants in a partnership with other agencies, including the Port Security Grant Program (PSGP) with the U.S. Coast Guard, the Transit Security Grant Program (TSGP) with the Transportation Security Administration (TSA), and the Buffer Zone Protection Program (BZPP) with the Office of Infrastructure Protection (OIP). While there are some

Question#:	3
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Hearing:	Implementing FEMA Reform: Are we prepared for the 2007 Hurricane season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

differences in programmatic roles and responsibilities, both parties are fully committed to providing the best possible customer service to the grantees, and working in a collaborative manner to develop programmatic guidance. FEMA retains the responsibility for all grants transferred into the agency as part of the Post Katrina Act, and will continue to develop policy, program guidance, award the funds, and interface with the grantee.

The Department has both intra-agency and inter-agency groups that work on programmatic priorities and focus areas each year for publication with the grant guidance. Participants within the Department include numerous entities, including the Domestic Nuclear Detection Office, the Office of Policy, and Customs and Border Protection. Inter-agency partners include the Department of Health and Human Services and the U.S. Department of Agriculture. It is important to this Department to have a collaborative process by which programmatic guidance is developed for State and local recipients, and we have worked hard each year to expand the circle of participants in this process.

FEMA and the former Office of Grants & Training have a long history of working in a regional structure, and this merger under the Post Katrina Act will further enhance that effort. One of the goals of the new FEMA is to strengthen the regional offices, and additional full time employees designed to work on preparedness efforts will be placed in the regions. FEMA's grant programs currently involve regional staff that works on the Assistance to Firefighters Grants (AFG), the Metropolitan Medical Response System (MMRS) grants, and the Emergency Management Performance Grants (EMPG). These regional staff members compliment the existing headquarters staff, who serve as strategic consultants for the Homeland Security Grant Program (HSGP) and the Infrastructure Protection Program (IPP) grants. The program managers for all of these programs are in close contact and work together on all efforts related to State and local preparedness. The combination of regional and headquarters-based staff provides FEMA with a strong cadre of experienced preparedness professionals.

Question#:	4
Topic:	NRP
Hearing:	Implementing FEMA Reform: Are we prepared for the 2007 Hurricane season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: In the existing National Response Plan, the Red Cross has the primary responsibility for Mass Care. The Red Cross has acknowledged that it was never capable of leading mass care in a catastrophe, and FEMA will have the primary role in the new National Response Plan once it is finished. Until the new plan comes out, will the Red Cross continue to have the lead for mass care even though it has acknowledged it doesn't have the necessary capabilities? What is FEMA doing to build the capabilities necessary to lead Mass Care aspects of response efforts? When do you expect that FEMA's capabilities will be adequate to lead Mass Care in a catastrophe?

Answer: FEMA and the American Red Cross (ARC) agreed to a change in the management of the National Response Plan (NRP) and have already communicated this change to internal and external partners and revised the NRP Emergency Support Function (ESF) #6 Annex accordingly.

Until the new NRP is released, FEMA and ARC will execute ESF #6 functions under an interim operating agreement, which outlines newly defined roles and responsibilities for each agency.

FEMA will continue to work closely with ESF #6 support agencies to support state and local mass care operations on declared disasters. To enhance the delivery of mass care services to disaster victims, FEMA is working on the following initiatives:

- Performing gap analysis to determine limits of State and local capability. Designing resource delivery systems to augment where needed – including logistics, contracting, and staffing support for evacuations, transportation, medical, and special needs (The DHS-Office of Health Affairs provides technical assistance support to FEMA and the ESF #6 partners on the special and medical needs planning components of mass care).
- Participating in Catastrophic planning workshops for a New Madrid earthquake and category five hurricane in Miami.
- Managing a National Shelter System that tracks shelters nationwide, in partnership with ARC, and State and local governments.
- Developing detailed plans together with federal, State and NGO partners to ensure that evacuees are tracked from embarkation to shelter when mass evacuations occur.
- Developing concept of operations with Health and Human Services (HHS) and ARC for 2007 activities.
- Developing case work pilot project with HHS.

Question#:	4
Topic:	NRP
Hearing:	Implementing FEMA Reform: Are we prepared for the 2007 Hurricane season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

- Developing protocols for efficiently transitioning evacuees from congregate shelters to other transitional housing if they are forced to remain in a host location for longer than 30 days.
- Developing detailed plans together with federal and State partners to support pet evacuation and sheltering in the event of a mass evacuation.
- Pre-scripted mission assignments for federal agency, contract, and NGO support to ESF #6 Mission, including shelter management, specialized needs, feeding, and transport.
- Developing a National Disaster Housing Strategy that outlines the roles, responsibilities, and coordination mechanisms of federal and State partners in the identification and delivery of disaster housing resources.

FEMA is working to build a robust system for evacuation, sheltering, and housing that includes national planning, standards, credentialing, typing, common terminology, and standards of performance. That national system will take years to fully mature, but we are more prepared than ever before to lead and coordinate federal assets to deliver the mass care mission under ESF #6.

Sen. Landrieu:

Question: And now, I guess, my final question would be about this planning. While some of this is too late for us for this time, it's not going to be, hopefully, the next time. I'm still concerned, Mr. Chairman, that we are not investing more money in planning, but we are moving money from one pot to another. So my question is, "How much money was in the grant program for local planning for disasters before Katrina and Rita and how much is available today?" Are we $1 billion to the positive or $1 billion or more to the negative?

Answer: Planning is part of the broad context of incident management and an essential activity of homeland security. The President identified emergency planning as a national priority, and this prioritization is reflected in the National Preparedness Goal. The value of planning rests in its proven ability to determine how to influence events before they occur, and in its indispensable contribution to unity of effort.

The Department provides funding for planning through six major programs: The State Homeland Security, Urban Areas Security Initiative, Emergency Management Performance, Law Enforcement Terrorism Preparedness, Metropolitan Medical Response System and Infrastructure Protection grant programs. The DHS Fiscal Year (FY) 2007 Homeland Security Grant Program includes a specific planning priority: "Enhance Catastrophic Planning to Address Nationwide Plan Review Results. In the aftermath of Hurricane Katrina, the President and Congress directed DHS to conduct a Nationwide Plan Review in 2006. Following the results of that review, planning vaulted to the second highest grant expenditure category (second only to interoperability). Planning is an allowable cost under these programs; eligible costs include but are not limited to: modifying existing incident management and emergency operations plans; establishing or enhancing mutual aid agreements; developing public/private sector partnership emergency response and resource sharing plans; developing or enhancing plans to engage and interface with, and to increase the capacity of, private sector/non-governmental entities working to meet the human service response and recovery needs of victims; and developing or enhancing evacuation plans. Allocations are made at the discretion of each State and Urban Area.

States have reported to the National Preparedness Directorate's Capabilities Division, which administers these programs that expenditures for planning purposes, across grant programs, have increased markedly, as follows:

FY 2004	$263.3 million
FY 2005	$422.2 million ($158.9 million increase, or 37 percent, year over year)
FY 2006	$533.3 million ($111.1 million increase, or 20 percent, year over year)
Total:	$1.2 billion

In an example that emphasizes the renewed emphasis on planning, FEMA, other Federal planners, its State partners in the Gulf Coast, surrounding States and the American Red Cross implemented a high priority planning effort to identify shortfalls, gaps, and corrective actions that will lead to a greatly increased Gulf Coast capability to respond to the 2007 hurricane season through improved mass evacuation transportation and sheltering capabilities. The results, best products, and lessons of this several months-long collaborative planning effort will be shared with other Federal, State, local, tribal and territorial planners across the country.

Senator Coleman:

Question: "Last question. This "Are You Ready?" is an in-depth guide to citizen preparedness. For a Government document, it is actually pretty simple. It is pretty good. An average family, a Mom and Dad could look at this, and it deals with everything from a radiological disaster to extreme het, extreme cold. We do not worry about the—actually, it is hot in Minnesota on occasion. But it is actually a pretty good publication. I have a copy of it. How does the average citizen get this? Can you get it in public libraries? What are you doing to make this available? Because this goes to my confidence issue, just to have people know that we are thinkjing about this and we are connecting with them better than we have in the past. Is there a plan or program to make this available?

Answer: *Are You Ready? An In-depth Guide to Citizen Preparedness* (IS-22) is FEMA's most comprehensive source on individual, family, and community preparedness. The guide has been revised, updated, and enhanced in August 2004 to provide the public with the most current and up-to-date disaster preparedness information available, and is available online at www.fema.gov/areyouready. At that time, copies were distributed to congressional members, state partners (governors, emergency managers, and homeland security advisors), key media outlets, and stakeholder organizations, among others. We did not do a coordinated distribution to all libraries, although we did discuss the concept but didn't have the available resources to execute a full distribution (printing, mailing, etc.). We have, however, sent copies to libraries when requested.

Are You Ready?, also available in Spanish, can be used in a variety of ways including as a read-through or reference guide. The guide can also be used as a study manual guide with credit awarded for successful completion and a 75 percent score on a final exam. Also available is the *Are You Ready? Facilitator Guide* (IS-22FG). *The Facilitator Guide* is a tool for those interested in delivering *Are You Ready?* content in a small group or classroom setting. *The Facilitator Guide* is an easy to use manual that has instruction modules for adults, older children, and younger children. A resource CD is packaged with the *Facilitator Guide* that contains customizable presentation materials, sample training plans, and other disaster preparedness education resources.

Copies of Are You Ready? and the Facilitator Guide are available through the FEMA publications warehouse (1.800.480.2520). For large quantities, organizations may reprint the publication (information and electronic files for reprints is online at http://www.fema.gov/areyouready/reprint.shtm).

Question#:	1
Topic:	routine disasters
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: In addition to routine disasters, the Post-Katrina Act charges the new FEMA with being prepared for and able to respond to catastrophes (when by definition state and local officials are overwhelmed) – something the old FEMA was never built to do. Given that many of the failures during Katrina were attributed to the fact that FEMA was not prepared to respond to a catastrophe, please provide a detailed explanation of how you plan to build FEMA into an entity that can.

Answer:

A catastrophic incident is any natural or manmade incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy national morale, and/or government functions. A catastrophic incident could result in sustained in national impacts over a prolonged period of time; almost immediately exceeds resources normally available to State, local, tribal, and private sector authorities in the impacted area; and significantly interrupts governmental operations and emergency services to such an extent that national security could be threatened. A catastrophic incident can result in an urban or metropolitan area, or more expansive geographical area encompassing a large aggregate population, having tens of thousands of casualties (dead, dying and injured) and/or producing tens of thousands of evacuees or significant numbers of people affected in-place. In a catastrophic incident the response capabilities and resources of the local jurisdiction (to include mutual aid from surrounding jurisdictions and response support from the State) will be profoundly insufficient and quickly overwhelmed. Life saving support from outside the area, and Federal capabilities, will be required, as time will be of the essence.

First and foremost, FEMA is better able to respond to a catastrophic disaster because FEMA is committed to taking a proactive approach to responding to incidents, including catastrophic disasters. We will move quickly to position people and resources to address possible response and recovery needs, even before a formal request for assistance is received from State and local officials. FEMA will no longer wait for the State and local response and recovery capabilities to be overwhelmed before acting, but instead is committed to entering into an "engaged partnership" with our State and local colleagues to respond more quickly and effectively. This will enable FEMA to be more responsive to both notice and no-notice events.

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FEMA is also better able to respond to catastrophic incidents because of the integration of the National Preparedness functions into the agency. This realignment strengthened our relationships with other Federal partners, State and local officials, as well as the private sector to plan, train and exercise response capabilities before an incident takes place. FEMA has also implemented major improvements in its major disaster response and recovery capabilities through increased logistics capabilities including the Total Asset Visibility (TAV) system; pre-scripted mission assignments and pre-contracted supply pipelines to allow for more robust and timely provision of needed disaster support and supplies; upgraded response team capabilities including improved communications for increased situational awareness; greatly increased capacity for registration and processing of disaster victims requests for assistance coupled with robust systems to detect and deter waste, fraud and abuse; developed programmatic improvements and expanded coordination efforts to address catastrophic sheltering and housing needs; upgraded tracking capabilities for disaster victims including the initial establishment of systems to help reunite families, and created systems to support State and local efforts to address issues such as debris removal and restoration of major infrastructure.

FEMA has also initiated a catastrophic disaster planning initiative to improve response capabilities and complement the NRP, NIMS, and State and local planning activities. This initiative for notice and no-notice events will ensure that DHS/FEMA and its Federal, State, and local partners have taken every possible measure to effect appropriate, quick, effective, and efficient response and recovery to protect the health, safety, and well-being of the population and, to the extent possible, restore the infrastructure following such an event. FEMA Catastrophic Disaster Response Planning Initiatives are currently focused on four specific geographic areas: Southeast Louisiana, the eight states in the New Madrid Seismic Zone (NMSZ), the State of Florida, and the State of California.

- Southeast Louisiana Catastrophic Hurricane Planning Initiative
  - 13 southeastern Louisiana Parishes and the City of New Orleans were selected as the initial focus area for FEMA's Catastrophic Disaster Planning Initiative because of their vulnerability to hurricane disasters.
  - Substantial planning activity has been accomplished with the State of Louisiana and Parishes post Hurricane Katrina, especially related to planning and preparing for both the 2006 and 2007 Hurricane Seasons.

- New Madrid Seismic Zone (NMSZ) Readiness Planning
  - This initiative focuses planning for a no-notice catastrophic earthquake striking along the 150-mile long NMSZ fault and impacting four FEMA

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Regions (IV, V, VI, and VII) and eight States--Alabama, Mississippi, Tennessee, Kentucky, Illinois, Indiana, Arkansas and Missouri.
- It addresses one of the 15 National Planning Scenarios.
- FEMA is using a collaborative approach in scenario driven workshops to complete planning in specific functional planning areas including:
  - search and rescue;
  - communications;
  - command and control;
  - temporary medical care;
  - special needs;
  - debris removal;
  - schools;
  - evacuation;
  - sheltering;
  - mass care;
  - pets;
  - temporary housing;
  - transportation;
  - staging and distribution of critical resources;
  - access control and reentry;
  - power, water, and ice distribution;
  - volunteer and donations management;
  - hazardous materials; and
  - external affairs.

- Florida Catastrophic Planning Initiative
  - This is a two phased project:
    - Phase I focuses on evacuation planning in the counties around Lake Okeechobee (Palm Beach, Glades, Hendry and Martin Counties) in the event of a failure of the Herbert Hoover Dike.
    - Phase two focuses on the planning for responding to a Category 5 Hurricane striking South Florida and Miami.
  - The specific products from this initiative will be:
    - A standardized and comprehensive catastrophic Category 5 hurricane disaster functional response plan for the State of Florida and evacuation plans for the counties around Lake Okeechobee.
    - Vertical and horizontal integration of Federal, State, local, tribal nations, critical infrastructure and private sector response and recovery plans.

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  - These plans can also be used as planning templates to address site specific emergency response functional areas for other large urban areas.

- California Catastrophic Disaster Readiness Planning
  - This initiative is in the initial planning phase.
  - The results of the Louisiana, NMSZ, and Florida Catastrophic Disaster Planning Initiatives and the associated grass roots workshops, operational planning, exchange of information, training, and exercises will be used to facilitate California planning.
  - The California initiative will initially involve scoping activities in conjunction with the State of California to determine the level of catastrophic seismic incident readiness planning requirements.

For 2007, FEMA has taken a tiered approach to planning. First, we engaged each of the 18 hurricane impact States, the Commonwealth of Puerto Rico, the District of Columbia and the U.S. Virgin Islands in focused hurricane planning. This included employing a Gap Analysis Tool that informed the planning process. Second, we are continuing to provide specific attention to the Gulf Coast States by pursuing, for the first time, regional development of a Gulf Coast Evacuation Plan. Third, we are continuing to pursue specific planning efforts with our partners in the State of Louisiana, in recognition of their condition following the devastation of Hurricane Katrina. Last, we are also focusing Catastrophic Disaster Response Planning that focus on hurricane scenarios on Southeast Louisiana and the State of Florida.

Hurricane Gap Analysis Program

FEMA is working with hurricane prone States and conducting gap analyses that serve as the basis for better understanding vulnerabilities in a more consistent manner. The Gap Analysis Program, developed in coordination with the State of New York Emergency Management Office and the New York City Office of Emergency Management, is providing FEMA and its partners at both the State and local levels in the hurricane-prone regions of the country with a snapshot of asset gaps to determine the level of Federal support that will potentially be needed during a category 3 hurricane.

The initiative, a joint effort between State Emergency Management representatives and FEMA Regional representatives, involved conducting a series of structured discussions with local jurisdictions to better understand potential disaster response asset gaps in the critical disaster response areas of debris removal, evacuation, sheltering, interim housing, healthcare facilities, commodity distribution, communications, and fuel. The discussions

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provided an opportunity for local jurisdictions to ask specific questions of Federal and State officials and identify issues of critical concern that can be addressed as part of long-term preparedness programs.

Specific gaps have been determined by identifying a series of requirements in each critical area within each location and then subtracting the corresponding capabilities for meeting those requirements for each location.

The initial data collection phase of this program concluded June 1, 2007, and the results serve as the ongoing basis for jointly addressing the identified shortfalls and issues with our State partners. As this initiative has progressed, we have noted a steady decrease in the initial shortfalls and vulnerabilities identified in areas such as debris removal contracts; transportation contracts; identification of potential shelters and evacuation routes; identifying points of distribution; and provision of specific commodities such as tarps, generators, and cots.

Although our initial use of this method is being applied for the upcoming hurricane season, this process is applicable to all hazards events. FEMA is currently reviewing, revising, and improving the program to reflect our experiences and lessons learned. One of the major revisions will be to tie participation to the allocation of grant funding. Revisions to both the questions and the categories to do a better job of capturing the true capabilities in an all hazards environment are also envisioned.

The new FEMA has made a conscious effort to focus broadly on all 18 hurricane-prone States, the Commonwealth of Puerto Rico, and Territories to prepare for the 2007 hurricane season. Today, FEMA continues to work closely with each of the 18 State emergency management organizations in the hurricane-prone States using a consistent set of measures and tools to evaluate strengths and vulnerabilities.

Modeling is also an essential element of FEMA's planning efforts for different circumstances. FEMA is coordinating with various DHS components including the DHS Science and Technology (S&T) Directorate to adapt modeling tools to large metropolitan areas. For example, many tools utilize a standard figure for population per square mile, often resulting in skewed data for areas with high-rise apartment buildings. The work with S&T is focusing on adapting these modeling tools to urban environments.

As the Hurricane Gap Analysis Tool becomes more mature, FEMA plans to incorporate additional modeling capabilities to validate the data received and to forecast needs based on different variables. FEMA's current hurricane planning efforts rely heavily on

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existing modeling tools such as:

- HurrEvac (Hurricane Evacuation) to enable tracking hurricanes and assist in evacuation decision making;
- NOAA's SLOSH (Sea, Lake and Overland Surges from Hurricanes) to enable estimates of storm surge heights and winds resulting from historical, hypothetical, or predicted hurricanes by taking into account pressure, size, forward speed, track, and winds;
- HAZUS (Hazards U.S.) established by FEMA to assess risk and forecast losses based on population characteristics and buildings;
- The US Army Corps of Engineers modeling tools which rely on geospatial capabilities to provide estimates of debris volumes; water, ice, and commodity needs; and the number of people within the households likely within hurricane force winds; and
- NISAC (National Infrastructure Simulation and Analysis Center) advanced modeling and simulation capabilities to analyze critical infrastructure interdependencies and vulnerabilities.

Question#:	2
Topic:	grants
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: Homeland security grants are the principal means the Department has to ensure that state and local governments are prepared for a disaster, whether natural or man-made. The Post-Katrina Act requires the FEMA Administrator to establish a comprehensive system to assess the Nation's overall preparedness, including the use of performance metrics. Now that the Post-Katrina Act has made FEMA responsible for administering these grants, how will you use these grants to make sure we are effectively building our national capabilities to respond to – and, in the case of terrorist attacks and other man-made incidents, prevent – disasters? What changes will you make to how grants have previously been administered? What steps are you taking to implement the requirement to use performance metrics? How do you plan to use performance metrics to ensure that the grants FEMA distributes are effective in increasing state and local preparedness?

Answer:

FEMA is working to establish a comprehensive system to assess the Nation's overall preparedness, including the use of performance metrics on two fronts: programmatically and financial management.

On the programmatic front, FEMA will continue to manage its portfolio of grant programs in support of implementation of the interim National Preparedness Goal (Goal). The Goal outlines an all-hazards vision that cuts across the four mission areas of preparedness: to prevent, protect against, respond to, and recover from major events, including terrorist attacks and catastrophic natural disasters. The Goal includes a Target Capabilities List derived from both terrorist and natural disaster scenarios, with an additional capability added based on experience during the response to Hurricane Katrina, and is meant to be an all-hazards tool to measure whether we are prepared. Each capability (the performance indicator) includes specific components such as equipment needs, personnel and training requirements, and performance and preparedness measures and metrics as defined in the interim National Preparedness Goal.

The interim National Preparedness Goal can ultimately be used to assess existing first responder capacities, identify gaps in those capacities, and measure progress from application to close-out. During the next two years we will be looking at how to incorporate these specific performance goals into a systematic performance measurement

Question#:	2
Topic:	grants
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

tool to more effectively measure progress and provide even stronger accountability for the use of public funds.

As part of this effort, FEMA, through the National Preparedness Directorate (NPD), is working with State and local jurisdictions on the identification of their capability levels, ensuring that State and local entities use homeland security grant funds to implement the Goal. The status of a State's preparedness will be documented and communicated through annual comprehensive assessments and the State Preparedness Reports, targeted to be completed during the first quarter of Fiscal Year (FY) 2008.

With regard to financial management, FEMA recognizes that the ability to assess the Nation's overall preparedness also involves ensuring the efficient and effective management and administration of funds. This includes:

- Ensuring that funds are awarded and, once awarded, grants are completed and closed in a timely manner;
- Validating that performance requirements are met;
- Reporting results that are both accurate and timely; and
- Establishing thorough oversight and management.

FEMA staff is currently working on improving internal administrative processes and to establish improved financial grant management and administration, as mandated by the Post-Katrina Act Reform Act of 2006. These process improvements will provide a more efficient grants management process within FEMA's newly established Grants Management Directorate. This Directorate is looking to consolidate monitoring efforts among the 20 different grant programs within FEMA which seek to build capability at the State and local level to prepare for acts of terrorism and other catastrophic events. Working groups were formed to develop and introduce new process improvements for grants management and monitoring, as well as to identify new resource requirements for grant award administration, auditing, reporting, and monitoring. Opportunities for improving FEMA's financial management and administrative efficiencies were identified, with specific attention being given to improving compliance and oversight to ensure that funds are spent properly and programmatic objectives are met.

Through the process of establishing the Grants Management Directorate, FEMA is seeking to apply more focused resources to manage the significant portfolio of grants now under its administrative responsibility. The public investment is significant and the public trust can only be assured by our appropriate investment in, and attention to, accountability. FEMA is looking at expanding the use of programmatic monitoring and

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audits to examine award balances and activity over time and assess how that activity meets specific goals and objectives identified in guidance or by the grantee. FEMA is committed to examining additional opportunities to engage our stakeholders to improve and streamline grants management activities as we continue to develop future programmatic guidance.

Question#:	3
Topic:	contracts
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: At the hearing, in response to questions regarding FEMA's four large non-competitive contracts for technical assistance (with Fluor Corp., the Shaw Group, Bechtel, and CH2M), you observed:

We have a couple smaller no-bid contracts that are still viable, and we're going to re-bid those as soon as they come up. And the only other no-bid that we have is if we go into a town and have to put a trailer park up...There's no reason to bid that. If there is a trailer site there, we'll go in and lease that from an agency.

Recently FEMA submitted to several Congressional Committees a list of over 4,000 contract actions that were taken without competition. It is my understanding that the list covers contract actions taken during the period of October 2005 to April 2007. How do you reconcile your statement at the hearing with the existence of this list? What is the status of FEMA to put contracts in place to reduce the need for post-disaster sole source contracts? How many indefinite-delivery, indefinite-quantity contracts does FEMA now have in place, and what products and services do they cover?

Answer:

In response to a Question for the Record received in April from the House of Representatives Department of Homeland Security Appropriations subcommittee, the Agency recently submitted a list of 3,663 contract actions which were classified as "not competed" based on (1) Urgent and Compelling, (2) Only One Responsible Source , and (3) Unique Source. Each action contains the proper justification, which is located in the contract file. These contract actions were awarded between October 1, 2005 (the beginning of FY06) and April 10, 2007 (the date of the Congressional data request) and are mostly the result of actions awarded in support of Hurricanes Katrina and Rita.

Each day, contract actions included in the list expire; at the time the list was submitted, over half of the actions on the list had already expired. Though FEMA had active sole source contracts in place at the time of the hearing in May, the referenced list (which spanned from October 1, 2005 to April 10, 2007) was and is no longer an accurate representation of current non competitive contracts. For actions that are still active, awards without full and open competition continue to support requirements, e.g. pad leases for temporary housing units.

Question#:	3
Topic:	contracts
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
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Committee:	HOMELAND SECURITY (SENATE)

FEMA is in the process of finalizing a report to Congress that lists the sole source awards issued from January 1, 2007 to March 31, 2007, which is in accordance with Public Law 109-295, Section 691. This list will encompass each disaster assistance contract awarded by the Agency "by other than competitive procedures." Subsequent submissions containing lists of contracts awarded in future fiscal year quarters "by other than competitive procedures" will be provided on a quarterly basis.

In order to preclude future use of sole source contracts to the maximum extent possible, FEMA has competitively awarded many contracts that will support future disaster management. These contracts support all aspects of FEMA disaster management including logistics, mitigation, individual assistance, recovery, management, and integration center support.

In addition to pre-competed contracts, FEMA is also strengthening its partnerships with its Federal partners by establishing pre-scripted Mission Assignments and Interagency Agreements, where the terms and conditions and roles and responsibilities are established in advance of a requirement. These agreements cover the provision of services and commodities such as fuel, ice, transportation, and security.

By mid-August, FEMA will have in place nine (9) key pre-event contracts and funded capabilities in support of major disaster preparedness requirements. Examples of requirements being met include Individual Assistance-Technical Assistance requirements, commercial bus evacuation, commercial rail evacuation, and total asset visibility. Additionally, a number of follow-on Indefinite Delivery Indefinite Quantity (ID/IQ) contracts are in place to support state and local disaster victims in recovery efforts after a disaster strikes. One major recovery requirement being contracted for in advance is for housing inspection services. By having pre-competed contracts and Federal partnership agreements negotiated in advance of an incident, FEMA will be better able to respond to the next catastrophic disaster.

In response to your request for the number and breakdown of goods and services for the Agency's ID/IQ contracts, FEMA believes that the upcoming Section 691 report will provide the most accurate representation of the agreements the Agency has in place in the event of a major disaster; this report will better be able to address your question. In addition to the listing of sole-source awards made by the Agency mentioned earlier, part of this report includes a list of (1) goods suitable for advance contracting, (2) services suitable for advance contracting, (3) goods and services unsuitable for advance contracting, and (4) a list of pre-positioned contracts available for use in FY07. Once finalized, this 691 report will be submitted to the appropriate parties in Congress.

Question#:	4
Topic:	NRP
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: The National Response Plan is only a framework for response and each entity with responsibilities under the National Response Plan is required under the Post-Katrina Act to have detailed operational plans in order to implement the National Response Plan. Please explain the role of FEMA in developing such operational plans and in coordinating planning by departments and agencies with responsibilities under the NRP.

How is FEMA's role distinct from any planning for response to catastrophic incidents being conducted by any other entities of the Department?

Answer:

FEMA's role in disaster response is to lead and support the Nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation. FEMA coordinates and manages the Federal operational support during catastrophic and other incidents. Whereas other agencies in DHS provide strategic level capabilities, FEMA's mission, as laid out in the Post Katrina Emergency Management Reform Act, is more operational in nature and encompasses the lead for "National Planning Scenarios," catastrophic planning, and the entire National Preparedness System, including being the primary lead in the interagency for preparedness, operational planning, and disaster response.

In addition, FEMA regularly meets with National- and Regional-level partners through the auspices of the Emergency Support Functions Leaders Group (ESFLG) and the Regional Interagency Steering Committees (RISCs). These meetings are designed to facilitate a collaborative planning environment that is conducive to ensuring interagency coordination and communication. Through the Regions, FEMA reaches out to State and local governments in an "engaged partnership" to lean forward in coordinating comprehensive all-hazards planning and provide more effective disaster assistance.

FEMA's new "Operational Planning Unit" (Planning Unit), located in FEMA's Headquarters, provides sophisticated operational analyses of both ongoing and potential situations to ensure the most effective response to all disasters. With this new capability, FEMA is building its core operational planning competency to provide greater depth of experience and more capability to perform critical disaster response operational analyses, prepare operational plans, and conduct crisis action planning to ensure that the Agency can lead, coordinate and support a national all-hazard emergency management response.

Question#:	4
Topic:	NRP
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
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Specifically, the Operational Planning Unit —

- Provides National and Regional operational planning guidance and coordination;
- Coordinates at the operational level the execution of all hazard contingency plans;
- Provides forecasting and analysis of potential events;
- Assists FEMA Regions in operational planning at the regional level; and
- Leads the development of DHS and FEMA hazard-specific contingency plans.

Eventually, planners will also be hired for the Regions to provide greater capability at the Regional level. Currently, FEMA Operational planners are directly supporting evacuation planning efforts in Louisiana in the event of a catastrophic hurricane as well as a mass migration event in the Caribbean. Other projects have included supporting Region 5 in preparation and execution of scenarios during exercise Ardent Sentry. Plans are to hire operational planners in the Regions to directly support planning requirements at the Regional level, including planning for hurricanes, pandemic influenza, flooding events and other hazards.

The DHS Office of Operations Coordination is responsible for the National Operations Center Planning Element, responsible for supporting a unified, inter-agency planning effort at the strategic level for incidents requiring a coordinated National response. The NOC Planning Element supports strategic guidance development, concept development, plan development, and plan refinement that will lead to publication of a series of plans for actual or potential domestic events.

4.b What is the current status of concept and operational plans in support of the NRP, and what is the expected date of completion of such plans?

Key operational plans in support of the NRP are as follows:

- The 2007 National-level Hurricane Season Contingency Plan (CONPLAN) completed and published/posted to HSIN June 1, 2007.

  The 2007 Hurricane CONPLAN outlines the national-level federal preparedness, response, and initial recovery operations to a hurricane or tropical storm. These Federal preparedness, response, and initial recovery actions will be planned and executed in coordination with, and with the cooperation of, the appropriate government and non-government partners through the DHS/FEMA Regions. The

Question#:	4
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plan outlines the overarching framework for response to a hurricane and is supported by functional annexes and hazard specific appendices

- The Catastrophic Incident Supplement to the National Response Plan (NRP-CIS) establishes a coordinated strategy for accelerating the delivery and application of Federal and federally accessible resources and capabilities in support of a jurisdictional response to a no-notice or short-notice catastrophic mass victim/mass evacuation incident. The NRP-CIS provides the operational strategy summarized in the National Response Plan Catastrophic Incident Annex (NRP-CIA).

  The Base Plan provides a general strategic overview and outlines the tactical concept of operations at local, State, and Federal levels of government, to include detailed Federal logistical and transportation support actions and responsibilities.

- FEMA has also completed an Interim Catastrophic Earthquake Plan for the New Madrid Seismic Zone (NMSZ) and is working on a Pandemic Influenza Contingency Plan (CONPLAN) with cascading applications to maintain awareness of, prevent, protect against, respond to, recover from an outbreak of Pandemic Influenza, or similar emergencies involving biologics, toxins, viruses, bacteria, pharmacological precursors, and biological weapons of mass destruction attacks, in the United States.

- As part of FEMA's Catastrophic Disaster Planning Initiative in Florida, draft county plans for a breach of the Herbert Hoover Dike around Lake Okeechobee have been prepared. State of Florida response and recovery annexes for dealing with a catastrophic Category 5 Hurricane impacting South Florida and supporting Federal response plans are also being developed.

4.c Please explain what timelines and benchmarks have been established for completion of plans, including supporting plans by other departments and agencies.

FEMA is establishing and implementing, through its National Preparedness Directorate and the NRP departments and agencies via the Emergency Support Functions (ESFs), a cyclical and iterative interagency response training and exercise program, with an integral Remedial Actions Management Program (RAMP) to train and exercise the hurricane contingency plans and/or other derivative operational documentation.

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4.d What is FEMA's current understanding of whether other Federal agencies have the resources and capabilities needed to fulfill their obligations under the NRP?

The National Response Plan (NRP) applies a functional approach that groups the capabilities of Federal Departments and agencies and the American Red Cross into Emergency Support Functions (ESF) to provide the planning, support, resources, program implementation, and emergency services that are most likely to be needed during a disaster. The ESF structure provides mechanisms for interagency coordination both for declared disasters and emergencies under the Stafford Act and for non-Stafford Act incidents.

FEMA has invested substantial time in meeting with the ESFs in both group and one-on-one meetings to discuss disaster response roles and responsibilities; address issues relating to functional and operational procedures and assignments; review capabilities; and provide additional clarification where needed. The meetings have ensured that ESFs can maintain situational awareness and common operating picture capabilities.

FEMA Headquarters staff and Regional staff have been working closely with the ESF Departments and Agencies to develop the Pre-Scripted Mission Assignments (PSMA) to ensure that they understand their roles, responsibilities and requirements associated with developing and implementing the PSMAs. PSMAs are a mechanism through which Federal agencies, departments, and organizations can come to agreement in advance of an event in order to provide assistance to state and local governments in a disaster.

Question#:	5
Topic:	strike teams
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: Our Committee's investigation of Hurricane Katrina found that one of the serious problems contributing to the failed federal response was FEMA's failure to have enough emergency response teams and the failure to have enough trained and exercised personnel and equipment for those teams that existed. The Post-Katrina Act sought to fix this serious deficiency by requiring DHS to maintain an emergency response team called a "strike team" in each FEMA region. Hurricane season began June 1, yet, in recent testimony FEMA admitted that it does not have all of the teams required by the legislation.

How many National Response teams and how many strike teams does FEMA have now – teams that are full-time, trained, and prepared?

Please describe who will serve as members of the strike teams and the responsibilities of those teams.

Answer:

To assist State, local and tribal governments overwhelmed in a disaster situation, FEMA's Disaster Operations Directorate can immediately deploy multiple disaster response teams. We regularly test the capability of our teams and systems to execute their mission by participating in multi-agency and State and local exercises. Several different types of disaster response teams can be deployed to support disaster response, as discussed below. In accordance with the Post-Katrina Act, FEMA is developing a next generation of rapidly deployable interagency National and Regional emergency response teams, tentatively identified as Incident Management Assistance Teams (IMATs). These teams are building upon and will eventually replace existing Emergency Response Teams at the National and Regional levels and the Federal Incident Response Support Teams (FIRST) and will be designed to provide a forward Federal presence to better manage and coordinate the National response for catastrophic incidents.

National Emergency Response Team (ERT-N)
FEMA's ERT-Ns are deployed by FEMA Headquarters in response to Isignificant major disasters. Their purpose is to coordinate disaster response activities, coordinate and deploy key national response assets and resources, provide situational awareness, and maintain connectivity with key Department of Homeland Security operations centers and components. ERT-Ns are made up of approximately 32 individuals from FEMA Headquarters and Regions and other Federal partner agencies who also have day-to-day

Question#:	5
Topic:	strike teams
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
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responsibilities beyond their team assignments. ERT-Ns are organized according to National Incident Management System/Incident Command System (NIMS/ICS) standards, which provide a systematic, proactive, and coordinated approach for governmental and nongovernmental organizations at all levels to effectively prevent, protect against, respond to, and recover from incidents. ERT-N members typically provide the initial staffing cadre for a JFO supporting a major disaster/Incident of National Significance. The JFOs and ERT-Ns can be supported by FEMA's Mobile Emergency Response Support (MERS) detachments which provide support in operations, communications, and logistics. FEMA is working toward achieving NIMS compliance for all teams.

Emergency Response Teams-Advanced (ERT-A)

ERT-As are located in the ten FEMA Regions and can be deployed in the early phases of an incident to work directly with the States to assess the disaster impact, gain situational awareness, help coordinate the disaster response, and respond to specific State requests for assistance. The ERT-As are made up of approximately 25 individuals from the FEMA Regions and representatives from the ESF Departments and agencies, who also have day-to-day responsibilities beyond their team assignments. The ERT-A initially establishes its presence in the State Emergency Operations Center and later staffs the JFO to support the disaster response. The ERT-As deploy with basic communications capabilities including cell phones, wireless laptop computers, and a limited number of satellite cell phones. As needed, they can also be supported by the MERS detachments and their capabilities. A small component of an ERT-A, the Rapid Needs Assessment Team, is designed to collect disaster information in field needed to determine more specific disaster response requirements.

Federal Incident Response Support Teams (FIRSTs)

FIRSTs are emergency response teams consisting of approximately five individuals who can be deployed immediately to an incident or disaster, particularly an Incident of National Significance. We currently have two FIRSTs, one located in Region IV in Atlanta, Georgia, and the other in Region V in Chicago, Illinois. They are designed to serve as the forward component of the ERT-A and provide the core preliminary on-scene Federal management that supports the local incident commander or area commander to ensure an integrated inter-jurisdictional response. Current Federal incident response support provided by these teams includes a command vehicle and disaster emergency communications capabilities consisting of state-of-the-art capabilities including: tactical land mobile radios and repeater systems; tactical cellular phones; space-based satellite

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systems; high frequency and microwave line-of-sight systems interconnected by fiber optic cables to voice and data switches; local area networks; and GPS Units. More specifically this equipment includes:

- TRAC-STAR: TRAC-STAR is the name of a manufacturer of Satellite antennas. The FIRSTs have the capability to communicate via satellite systems that are equipped with satellite antennas manufactured by TRAC-STAR. These satellite communication systems are Very Small Aperture Terminals (VSAT) that operate on the Institute of Electrical and Electronic Engineers (IEEE) L-BAND (the IEEE L-Band is a satellite frequency between .39ghz and 1.55 ghz). These VSAT Satellite Communications Systems allow portable high-speed data, voice, and video teleconferencing networks to be established at the scene of a disaster response.

- GLOBAL STAR: GLOBALSTAR is the name of the supplier of satellite telephone systems and services offering both low-speed data and normal voice telecommunications via satellite handheld device similar in size to a traditional cellular telephone. The GLOBALSTAR telephone allows telephone calls to be placed across the Public Switched Telephone Network (PSTN).

- Iridium: IRIDIUM is the name of the supplier of satellite telephone systems and services offering both low-speed data and normal voice telecommunications via satellite handheld devices similar in size to a traditional cellular telephone. The IRIDIUM telephone allows telephone calls to be placed across the Public Switched Telephone Network (PSTN).

- CATV: CATV refers to CABLE Television. Both FIRSTs can provide satellite television (DIRECTV) reception on the ground when deployed.

- INMARSAT/BGAN: INMARSAT is the world's leading provider of global mobile satellite communications, providing mobile voice and high-speed data services to almost anywhere on the planet - on land, at sea and in the air. BGAN stands for Broadband Global Access Network and refers to a small, laptop-sized satellite antenna capable of limited voice and data telecommunications within the footprint of the INMARSAT satellite network. The FIRSTs both carry BGAN Model 500 satellite terminals capable of low-speed (128KBPS) data and a single voice channel to the Public Switched Telephone Network (PSTN).

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- High frequency and very high frequency repeaters, internet, computers, mobile radios, and GPS Units.

The FIRSTs will ultimately be consolidated into the next generation of emergency response teams, tentatively being called IMATs, which are in the process of being developed.

Next Generation Emergency Response Teams--Incident Management Assist Teams (IMAT)

To further enhance disaster response capabilities and ultimately provide for the three national-level response teams and regional-level emergency response "strike" teams required in the Post-Katrina Act, FEMA is developing the next generation of rapidly deployable interagency emergency response teams, tentatively identified as Incident Management Assistance Teams, designed to provide a forward Federal presence to facilitate managing the national response to catastrophic incidents. The primary mission of a FEMA IMAT will be to rapidly deploy to an incident or incident-threatened venue, provide leadership in the identification and provision of Federal assistance, and coordinate and integrate inter-jurisdictional response in support of the affected State(s) or U.S. Territory(s). The IMATs will support efforts to meet the emergent needs of State and local jurisdictions; possess the capability to provide initial situational awareness for Federal decision-makers; and support the initial establishment of a unified command.

IMATs will meet the multi-disciplinary needs of emergency management and in the future may include members from the inter-agency community. For significant events, a national-level team will lead the response, supported by regional-level teams. The National teams are envisioned to have the capability to establish an effective Federal presence within 12-hours of notification, to support the State, coordinate Federal activities, provide initial situational awareness, and to be self sufficient for a minimum of 48-hours to augment potentially scarce local resources.

The new IMATs will eventually subsume the existing mission and capabilities of the FIRST and ERTs and their mission and capabilities and will incorporate similar leadership, emergency management doctrine, and operational communications concepts. The national-level and regional-level teams will be staffed with a core of permanent full-time employees, unlike the ERTs, which are staffed on a collateral duty basis; will be fully compliant with NIMS and ICS; and will train and exercise as a unit.

The National IMATs will consist of approximately 26 full-time staff members and the Regional IMATs each will consist of approximately 15 full-time staff members. Both

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teams can be augmented with additional staff as needed. The teams may also be supported by FEMA's MERS elements as described earlier. The teams are still being designed and decisions on team assets, equipment, and expected capabilities have not yet been finalized. When not deployed, the teams will train with Federal partners and provide a training capability to elevate state and local emergency management capabilities. The teams will also engage in consistent and coordinated operational planning and relationship-building with State, local, tribal, and other stakeholders.

Standardized doctrine, policies, response metrics, and operating procedures are being developed to support these new teams which will be located at both the Headquarters and Regional level. The IMATs will be led by a credentialed Federal Coordinating Officer (FCO). Our current plan is to have one permanent National IMAT and three permanent Regional IMATs by September 30, 2007.

Question#:	6
Topic:	Federal Assistance
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: One of the issues that contributed to the catastrophe caused by Hurricane Katrina was the lack of evacuation planning. Since Katrina, FEMA has been helping states and local governments to improve their plans. Unfortunately, a catastrophe is likely to quickly overwhelm the capabilities of state and local governments.

Has FEMA identified federal assets and capabilities that would be used if federal assistance was needed with a large scale evacuation?

Has FEMA entered into any contractual arrangements to support evacuations?

Additionally, what plans does the federal government have to assist in the evacuation of the New Orleans metropolitan area, if federal assistance is required?

Answer:

The Mass Evacuation Incident Annex has been developed to describe in more detail evacuation functions and agency roles and responsibilities in mass evacuations. The Annex provides guidelines for evacuating large numbers of people in incidents requiring a coordinated Federal response through the NRP ESFs, and describes how Federal resources are integrated into State, local, and tribal support. In addition to the Mass Evacuation Incident Annex, FEMA is also working on developing the Incident Supplement to that Annex which will provide specifics regarding how and by whom many of the responsibilities outlined in the Annex will be accomplished. Issues such as evacuee registration and companion animal sheltering will be addressed.

Previously approved, pre-scripted mission assignments provide support in areas such as rotary wing heavy and medium airlift, tactical and strategic transportation, communications, emergency route clearance, aerial damage assessment, preparation of housing sites, support for mobilization centers and operational staging areas, fuel distribution support, security and public affairs support, and medical evacuation and facility support. These pre-scripted mission assignments should contribute significantly to supporting evacuations.

Contracts to support evacuation efforts include:

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National Commercial Bus Transportation Contract – This is a third party service for bus transportation that has been recently transferred to FEMA from DOT. This contract provides over 1,000 coach buses for evacuation purposes.

Rail Contract: More than twenty rail cars are pre-staged in New Orleans, with an additional back up train to respond upon call. This contract with Amtrak will provide additional evacuation services as needed.

FEMA has also assisted Louisiana, Mississippi, and Alabama in the development of a Gulf Coast Evacuation Plan that extends to adjacent States who may host Gulf Coast evacuees. The purpose of this effort is to synchronize separate State evacuation plans to create a more cohesive and organized effort. Teams are engaging with each State, identifying requirements and capabilities, and working to develop a plan that integrates shelter planning with transportation planning. The result of these efforts will be more timely, better organized, and better coordinated evacuation by those with their own transportation and for those who need assistance to evacuate by bus or air. A Gulf Coast Mass Evacuation Capabilities Enhancement meeting validated the Gulf Coast Evacuation Plan and identified gaps for the evacuation of special needs patients in the State of Louisiana.

FEMA has also established a Warm Cell Joint Field Office (JFO) in Baton Rouge that is conducting extensive planning for a mass evacuation of the 12 coastal parishes of Louisiana. The Warm Cell has formed both a Transportation Management Unit (TMU) and a Medical Management Unit to work with other Federal and State agencies to identify assets for transportation requirements, validate transportation and medical evacuation plans, identify gaps and shortfalls within the plans, and provide solutions. The TMU, in coordination with the Department of Transportation, is developing an Interagency Agreement to bring in subject matter experts and planners in the field of ground transportation and rail transportation. These plans, closely coordinated with Louisiana State and local plans, will help ensure that a comprehensive evacuation plan including transportation, sheltering, mass care, and ultimately return, is ready to support Louisiana.

Question#:	7
Topic:	assistance denied
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: In April 2007, a nor'easter passed through Connecticut bringing heavy rain, frozen precipitation, high winds, and coastal and urban flooding that caused major damage. The State of Connecticut requested various kinds of Stafford Act assistance in Connecticut, but only part of the requested relief was granted. The Stafford Act provides assistance where the severity of the storm is beyond the capacity of state and local governments. Although Connecticut has county lines on the map, those boundaries lack any real or legal significance as Connecticut does not have county government. Because there is no county government, cities alone must bear the burden of the damages, instead of spreading the cost out to the entire county.

Why was the additional public assistance denied?

In making a determination, did FEMA calculate per capita damages on a local government basis or on a countywide basis?

Why was Individual Assistance denied?

Answer:

FEMA evaluates the estimated cost of Federal and non-Federal Public Assistance against the statewide population to give some measure of the per capita impact within a State. Effective October 1, 2006, FEMA has been using a dollar figure of $1.22 per capita as an indicator that the disaster is of such size that it might warrant Federal assistance. Per FEMA regulation 44 C.F.R. § 206.48(a), we also take into consideration other relevant information including localized impacts, insurance coverage in force, hazard mitigation, recent and/or multiple disasters, and programs of other Federal agencies. FEMA also has an established policy for determining area designations under the Public Assistance program, which includes use of a countywide per capita indicator. The countywide per capita indicator for all disasters declared October 1, 2006, through September 30, 2007, is $3.05 (44 C.F.R. § 206.48). Hartford and New Haven Counties did not meet the per capita indicator. The per capita impacts for these two counties were $0.87 and $1.58 respectively.

The initial damage assessment to the private sector in the counties of Fairfield, Hartford, Litchfield, Middlesex, and New Haven revealed that the impact was not of the severity and magnitude to warrant the designation of Individual Assistance program. At the request of the State, FEMA, State, and local officials conducted a second Preliminary Damage Assessment (PDA) of these five counties and three additional counties. The results of the

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second PDA indicated more extensive damage to the private sector that would warrant the designation of the Individual Assistance program under the May 11, 2007 Presidential major disaster declaration. As a result, on June 13, 2007, the Individual Assistance program was designated under major disaster declaration FEMA-1700-DR for the counties of Fairfield, Hartford, Litchfield, Middlesex, New Haven, New London, and Windham.

Question#:	8
Topic:	transfers
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: The Post-Katrina Act requires the transfer to the new agency all components, programs, functions, and personnel of the existing FEMA, as well as all components, programs, functions and personnel of the existing Preparedness Directorate (including the Office of the Under Secretary), except for four specifically exempted offices -- the Office of Infrastructure Protection, the National Communications System, the National Cybersecurity Division, and the Office of the Chief Medical Officer. According to the Department's reorganization plan, DHS is not transferring 54 full-time employees (FTE's) who were working in the Under Secretary for Preparedness's office. The failure to transfer these 54 FTEs deprives the new FEMA of much needed resources and personnel; it also fails to completely transfer the Preparedness Directorate, minus the four offices listed above, to the new FEMA.

Why were these 54 FTE's not transferred?

Answer:

The Department outlined a reorganization plan in a notice to Congress on January 18, 2007, effective date March 31, 2007. The plan indicated that the Department transferred the preparedness functions of the former Preparedness Directorate with the exception of the four offices you noted to FEMA consistent with the Post-Katrina Act. The January 18 plan also indicated that the entities left behind would be organized and managed under the newly named National Protection and Programs Directorate (NPPD).[1]

The staff supporting the former Preparedness Directorate in the Under Secretary's Office supported Directorate-wide functions that continue to be necessary to lead and support those offices that did not transfer to FEMA and newly created offices (i.e. Office of Emergency Communications) within NPPD. The functions supported by the 54 billets include Under Secretary, front office, budget formulation and execution, human capital, information technology (Chief Information Officer), facilities, security, executive secretariat, and program review and evaluation staffs. These essential positions and Directorate-level functions ensure that NPPD component offices receive adequate support, coordination efforts, and direct access to senior-level guidance. FEMA has sufficient resources to support its Preparedness function.

[1] The Chief Medical Officer now leads the Office of Health Affairs as an entity separate from NPPD.

Question#:	9
Topic:	Section 689i
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: Section 689i of the Post-Katrina Act required FEMA to establish a rental housing pilot program to provide housing to victims. In a recent staff briefing, FEMA could not provide a date in which the pilot project would be implemented, despite the fact that it was authorized in October 2006.

When will the pilot project be implemented?

Please explain the details of the pilot program you plan to implement.

Answer:

FEMA has developed the framework of a pilot program and is prepared to brief the project to the Committee staff. However, it is FEMA's view that the rehabilitation of commercial buildings to provide permanent long-term housing solutions is outside of the FEMA mission and would be better served and more appropriately sited under an agency with a long-term housing mission. FEMA is also concerned that the skill sets and range of expertise to capably conduct the pilot and any such future projects of this nature are not consistent with core competencies that reside or are being developed within FEMA.

The rental housing project is one that would have FEMA enter into a lease agreement with the owner(s) of a multi-family rental property to make cost effective improvements in order to provide reasonable accommodations for disaster victims. The project's framework identifies many complicated issues, including, property selection and assessment, willing participation, contracting for building construction, compliance with codes and standards, and long-term cost-benefit analysis. All of these activities must be evaluated with full understanding of the housing market and environment within a given geographic area. While certainly a worthwhile project that may fall within permissible uses of the Disaster Relief Fund, these elements, for reasons stated above, argue against FEMA acting as the project manager.

Question#:	10
Topic:	FCO/PFO
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Joseph I. Lieberman
Committee:	HOMELAND SECURITY (SENATE)

Question: The National Response Plan names two senior federal officials – the Federal Coordinating Official (FCO) and the Principal Federal Official (PFO). In Katrina, confusion about who was in charge led to great problems in the response. To address this serious problem, the Post-Katrina Act required the FEMA Administrator to ensure that the National Response Plan provides for a clear chain of command and specified that the PFO shall not direct or replace the incident command at an incident and cannot have directional authority over the Federal Coordinating Official or other federal and state officials. Recent testimony in other congressional hearings suggests that confusion still exists over the roles of the PFO and the FCO. William Jenkins, Director of Homeland Security and Justice Issues at GAO, has also testified he is concerned about confusion over the roles and responsibilities and recommended that the same person should serve in both roles.

Given all this concern about the PFO, why is DHS trying to keep the PFO role?

What value do you think it adds?

What is the role of the FCO?

What is the role of the PFO?

Have you fulfilled your responsibilities under the Post-Katrina Act to ensure that the National Response Plan provides for a clear chain of command?

What is the chain of command (name the titles of the officials in the federal chain of command in order, starting from the top going down at least 5 officials)?

Do we have a single chain of command?

Does the PFO have any authority over the FCO?

Between the PFO and the FCO who has higher rank?

Answer:

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Federal Coordinating Officer. For Stafford Act events, upon the recommendation of the FEMA Administrator and the Secretary of Homeland Security, the President appoints an FCO. The FCO is a senior FEMA official trained, certified, and well experienced in emergency management, and specifically appointed to coordinate Federal support in the response and recovery to emergencies and major disasters. The FCO is the primary Federal representative with whom State and local emergency management officials interface for all Stafford Act events. The FCO assists the Secretary in carrying out the Secretary's responsibilities for domestic incident management.

The specific roles and responsibilities of the FCO include the following:

- Work in partnership with the State Coordinating Officer (SCO)to determine requirements and set objectives and priorities. The SCO is an individual appointed by the Governor to coordinate State responses and recovery operation with the Federal Government.
- Execute Stafford Act authorities, including commitment of resources and the authority to assign missions to other Federal agencies.
- Serve as the primary senior Federal official in the Unified Coordination Group and exercise responsibility for the organization and operational productivity of the JFO in attaining specified objectives.
- Ensure overall coordination of Federal emergency management, resource allocation, and seamless integration of Federal activities in support of and in coordination with State, tribal, and local requirements.
- In the absence of a Principal Coordinator (PC), the Principal Federal Official (PFO), serves as a primary, although not exclusive, point of contact for Federal interface with State, tribal, and local senior elected/appointed officials, the media, and the private sector.

Principal Federal Official (PFO). For major incidents that require an extraordinary level of coordination across multiple disciplines and functions and overlapping Federal and State authorities, the Secretary of Homeland Security may appoint a PFO to assist the Secretary in executing his or her responsibilities as the overall domestic incident manager. The PFO is a senior Federal official, well experienced in crisis management and empowered to exercise the levers of Federal influence as may be needed to eliminate barriers to ensure an efficient and effective Federal response. The appointment of a PFO is at the discretion of the Secretary of Homeland Security.

The majority of incidents, including most Stafford Act declared events, do not require the Secretary to appoint a PFO. Yet in the small number of incidents where the geographic scale, complexity of operational efforts, or impact on the public health and welfare are or may become severe, the overall effectiveness of the

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response and recovery effort will be enhanced by the supportive engagement of a PFO.

The specific roles and responsibilities of the PFO include the following:

- Serve as a direct representative of the Secretary of Homeland Security to Federal officials as well as State, tribal, and local senior elected/appointed officials, the media, and the private sector.
- Facilitate interagency conflict resolution as necessary.
- Ensure overall consistency of Federal interagency communications to the public.
- Provide real-time incident information to the Secretary of Homeland Security and the Director of Operations and the Administrator of FEMA.
- Participate in preparedness efforts (when designated prior to an incident).

The PFO does not direct or replace the incident command structure, nor does the PFO have directive authority over the FCO, Senior Federal, Law Enforcement Official, or other Federal and State officials who continue to exercise their authorities and responsibilities using Unified Command principles. Generally the PFO is an SES, while the FCO is either a GS 15 or SES.

Have you fulfilled your responsibilities under the Post-Katrina Act to ensure that the National Response Plan provides for a clear chain of command?

Yes. The revised NRP will address chain of command and coordination role and responsibilities as directed by the Post Katrina Emergency Management Reform Act. It is important to note that local and state authority and the local Incident Commander have the primary jurisdiction. Federal support is supplementary to the state and local governments. Federal responsibilities are established under the Stafford Act, the Homeland Security Act of 2002 and Homeland Security Presidential Directive 5 (HSPD-5).

What is the chain of command (name the titles of the officials in the federal chain of command in order, starting from the top going down at least 5 officials)?

The chain of command consists of four officials and is as follows: the President to the Secretary of DHS to the FEMA Administrator to the FCO. For Federal support the appropriate coordination chain of command is vested in the President of the United States and the authority to coordinate the federal response is delegated under HSPD-5 to the Secretary of Homeland Security and to the FEMA Administrator for Stafford Act events.

Question#:	10
Topic:	FCO/PFO
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The FCO has the operational authority to organize and direct federal resources. The FCO is technically appointed by the President upon the recommendation of the FEMA Administrator.

Do we have a single chain of command?

Yes, the PFO, if appointed, serves as a member of the Unified Coordination Group at the Joint Field Office. Under NIMS, Federal departments and agencies operate under unified command in the Joint Field Office. The FCO leads the Federal unified command with exceptions as noted in HSPD-5.

Question#:	11
Topic:	disasters
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Ted Stevens
Committee:	HOMELAND SECURITY (SENATE)

Question: We are rightfully focused on the hurricane season, which officially begins next week, although I note we have already had our first named storm of the season.

What planning is being done to address other annually occurring disasters, such as wildfires or extreme winter storms along the Alaska coast?

Answer:

FEMA Region X opened an Alaska Area Field Office (AFO) on July 9, 2007. This office will be responsible for engaging Federal partners and the State in emergency management preparedness and response planning activities. In the event of a disaster with a potential for Federal involvement, a FEMA liaison will be immediately available to work with the state at its State Emergency Coordination Center (SECC) to assist the state in identifying critical Federal resources that may be required to assist in the response. This individual would also serve as the Federal Liaison Officer (FLO) coordinating response efforts with Federal agencies in Alaska.

FEMA Region X has a pre-designated Advanced Emergency Response Team (ERT-A) that will be able to quickly respond to disasters requiring a speedy response in Alaska.

FEMA Region X completed a Mobilization Center and Federal Operations Staging Area (FOSA) assessment in Alaska in Fiscal Year 2006. The assessment included physical inspection of sites that could be used to receive and distribute Federal response assets following a large scale disaster. The findings/specifications are maintained as part of a response database that will be used by Federal responders to make timely and effective decisions.

FEMA recently completed Gap Analyses for each hurricane-prone state and territory within its regions. The Analyses included review of state and local plans, and state and local response capabilities in order to identify resources that will be most likely requested from FEMA and its Emergency Support Function (ESF) partners. This effort will soon be undertaken by non-hurricane prone regions using an all-hazards approach. It is a Federal/State partnership to ensure that critical response planning accomplishments and shortfalls are clearly identified and can be jointly addressed.

Question#:	12
Topic:	winter storms
Hearing:	Implementing FEMA Reform: Are We Prepared for the 2007 Hurricane Season?
Primary:	The Honorable Ted Stevens
Committee:	HOMELAND SECURITY (SENATE)

Question: I am very concerned that while FEMA is engaged in pre-planning for the Atlantic storm season that nothing is being done to plan for the winter storms that we know will come to Alaska and will result in severe wind damage and, more importantly, erosion of such intensity that whole villages can be lost. Villages such as Shishmaref can lose 20 feet or more of shore every year due to erosion caused by these winter storms.

How is FEMA planning for these storm events and the resultant damage that we know will come just as we know there will be hurricane damage?

Answer:

The State is responsible to identify hazards and vulnerabilities and then establish priorities for addressing such in planning efforts and with any required funding. The FEMA Region provides planning specialists to assist the state and their local entities develop pre-disaster mitigation plans to identify their risks and potential measures to reduce their vulnerabilities. With FEMA's approval of these plans, the entities are eligible for both pre- and post-disaster mitigation grant funding. Currently, the State of Alaska and twenty local entities have FEMA approved plans. Additional plans are currently underdevelopment.

Communities like Shirmaref require a multi-agency effort to address the threats to the communities. The state will need to work with the various Federal agencies with programs and funding resources to develop a comprehensive solution to meet the needs of the impacted populations. FEMA is a potential partner in a multi-agency effort and can contribute to mitigation, response and recovery efforts as authorized under the Stafford Act.

FEMA continues to support the Shishmaref and Kivaline communities that face erosion of their communities. Available support is limited due to parameters of the Stafford Act and other FEMA programs. Past mitigation grants include grants to Shishmaref for a relocation of computer cottage in 2006 and an $800,000 grant for relocation of private structures and limited bank protection in 1998. The Region and State will continue to work to identify mitigation assistance within the limited funding opportunities. For example, the state of Alaska and FEMA are currently helping Shishmaref develop a local mitigation plan to be eligible for future pre- and post-mitigation grant.

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FEMA Region X has a pre-designated Advanced Emergency Response Team (ERT-A) that will be able to quickly respond to disasters requiring a speedy response in Alaska.

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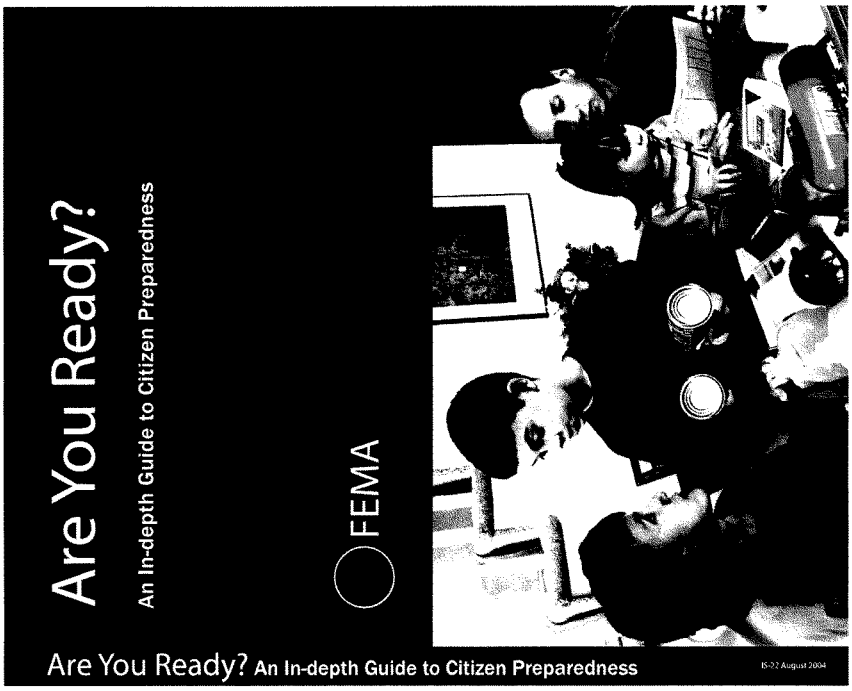
FEMA recently completed Gap Analyses for each hurricane-prone state and territory within its regions. The Analyses included review of state and local plans, and state and local response capabilities in order to identify resources that will be most likely requested from FEMA and its Emergency Support Function (ESF) partners. This effort will soon be undertaken by non-hurricane prone regions using an all-hazards approach. It is a Federal/State partnership to ensure that critical response planning accomplishments and shortfalls are clearly identified and can be jointly addressed.

FEMA routinely meets with its National- and Regional-level partners through the auspices of the Emergency Support Functions Leadership Group (ESFLG) and the Regional Interagency Steering Committees (RISCs). FEMA also coordinates with these partners in developing strategic all-hazards, time-sequenced plans of preparedness, response actions, and decision making points.

FEMA also routinely convenes multi-agency video teleconferences and conference calls involving the ESFLG, FEMA Regional staff, and incident-specific command and operations centers at the Federal and State levels upon receipt of actionable warnings. At these events, basic incident-specific preparedness, response, and initial recovery actions are introduced, coordinated, and synchronized in preparation for possible response. Through the experiences and lessons learned during cycles of disasters, FEMA can note areas of improvement and focus resources and capabilities appropriately on those regions and states that may need assistance.


Are You Ready?
An In-depth Guide to Citizen Preparedness
FEMA
Are You Ready? An In-depth Guide to Citizen Preparedness
IS-22 August 2004

Preface

This guide has been prepared for direct dissemination to the general public and is based on the most reliable hazard awareness and emergency education information available at the time of publication, including advances in scientific knowledge, more accurate technical language, and the latest physical research on what happens in disasters.

This publication is, however, too brief to cover every factor, situation, or difference in buildings, infrastructure, or other environmental features that might be of interest. To help you explore your interest further, additional sources of information have been included.

The guide has been designed to help the citizens of this nation learn how to protect themselves and their families against all types of hazards. It can be used as a reference source or as a step-by-step manual. The focus of the content is on how to develop, practice, and maintain emergency plans that reflect what must be done before, during, and after a disaster to protect people and their property. Also included is information on how to assemble a disaster supplies kit that contains the food, water, and other supplies in sufficient quantity for individuals and their families to survive following a disaster in the event they must rely on their own resources.

Are You Ready? is just one of many resources the Department of Homeland Security provides the citizens of this nation to help them be prepared against all types of hazards. The Department of Homeland Security's Ready Campaign seeks to help America be better prepared for even unlikely emergency scenarios. Information on how the public can be ready in case of a national emergency – including a possible terrorism attack involving biological, chemical, or radiological weapons – can be found by logging on to the Department of Homeland Security's web site, www.ready.gov, or by calling 1-800-BE-READY for printed information.

CERT

Following a disaster, community members may be on their own for a period of time because of the size of the area affected, lost communications, and impassable roads.

The Community Emergency Response Team (CERT) program supports local response capability by training volunteers to organize themselves and spontaneous volunteers at the disaster site, to provide immediate assistance to victims, and to collect disaster intelligence to support responders' efforts when they arrive.

In the classroom, participants learn about the hazards they face and ways to prepare for them. CERT members are taught basic organizational skills that they can use to help themselves, their loved ones, and their neighbors until help arrives.

Local government, or one of its representatives, sponsor CERT training in the community. Training consists of 20 hours of instruction on topics that include disaster preparedness, fire safety, disaster medical operations, light search and rescue, team organization, and disaster psychology. Upon completion of the training, participants are encouraged to continue their involvement by participating in training activities and volunteering for projects that support their community's disaster preparedness efforts.

For additional information on CERT, visit training.fema.gov/EMIWeb/CERT or contact your local Citizen Corps Council.

Citizen Corps

Citizen Corps provides opportunities for people across the country to participate in a range of measures to make their families, their homes, and their communities safer from the threats of crime, terrorism, public health issues, and disasters of all kinds. Through public education, training opportunities, and volunteer programs, every American can do their part to be better prepared and better protected and to help their communities do the same.

Citizen Corps is managed at the local level by Citizen Corps Councils, which bring together leaders from law enforcement, fire, emergency medical and other emergency management, volunteer organizations, local elected officials, the private sector, and other community stakeholders. These Citizen Corps Councils will organize public education on disaster mitigation and preparedness, citizen training, and volunteer programs to give people of all ages and backgrounds the opportunity to support their community's emergency services and to safeguard themselves and their property.

By participating in Citizen Corps programs, you can make your home, your neighborhood and your community a safer place to live. To find out more, please visit the Citizen Corps Web site, *www.citizencorps.gov* or visit *www.fema.gov*.

Activities under Citizen Corps include existing and new federally sponsored programs administered by the Department of Justice (Neighborhood Watch and Volunteers in Police Service), FEMA (Community Emergency Response Teams - CERT), and Department of Health and Human Services (Medical Reserve Corps), as well as other activities through Citizen Corps affiliate programs that share the common goal of community and family safety.

Certificate of Completion

As an option, credit can be provided to those who successfully complete the entire guide and score at least 75 percent on a final examination. To take the final examination, log on to training.fema.gov/emiweb/ishome.htm and follow the links for *Are You Ready? An In-depth Guide to Citizen Preparedness* IS-22. Those who pass the examination can expect to receive a certificate of completion within two weeks from the date the examination is received at FEMA. Questions about this option should be directed to the FEMA Independent Study Program by calling 1-800-238-2258 and asking for the Independent Study Office or writing to:

FEMA Independent Study Program
Emergency Management Institute
16825 South Seton Avenue
Emmitsburg, MD 21727

Facilitator Guide

Teaching others about disaster preparedness is a rewarding experience that results from knowing you have helped your fellow citizens be ready in the event a disaster should strike. As a tool to aid those who want to deliver such training, FEMA developed a Facilitator Guide with an accompanying CD-ROM for use with this *Are You Ready?* guide. The materials are appropriate for use in training groups such as school children, community organizations, scouts, social groups, and many others.

The Facilitator Guide includes guidelines on how to deliver training to various audiences, generic lesson plans for teaching disaster preparedness, and information on how to obtain other resources that can be used to augment the material in the *Are You Ready?* guide. The CD-ROM contains teaching aids such as electronic visuals that reflect key information and handouts that can be printed and distributed to reinforce what is being presented. To obtain a copy of the Facilitator Guide and CD-ROM, call the FEMA Distribution Center at (800) 480-2520 or request it by writing to:

Federal Emergency Management Agency
P.O. Box 2012
Jessup, MD 20794-2012

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Why Prepare

There are real benefits to being prepared.

- Being prepared can reduce fear, anxiety, and losses that accompany disasters. Communities, families, and individuals should know what to do in the event of a fire and where to seek shelter during a tornado. They should be ready to evacuate their homes and take refuge in public shelters and know how to care for their basic medical needs.
- People also can reduce the impact of disasters (flood proofing, elevating a home or moving a home out of harm's way, and securing items that could shake loose in an earthquake) and sometimes avoid the danger completely.

The need to prepare is real.

- Disasters disrupt hundreds of thousands of lives every year. Each disaster has lasting effects, both to people and property.
- If a disaster occurs in your community, local government and disaster-relief organizations will try to help you, but you need to be ready as well. Local responders may not be able to reach you immediately, or they may need to focus their efforts elsewhere.
- You should know how to respond to severe weather or any disaster that could occur in your area—hurricanes, earthquakes, extreme cold, flooding, or terrorism.
- You should also be ready to be self-sufficient for at least three days. This may mean providing for your own shelter, first aid, food, water, and sanitation.

Using this guide makes preparation practical.

- This guide was developed by the Federal Emergency Management Agency (FEMA), which is the agency responsible for responding to national disasters and for helping state and local governments and individuals prepare for emergencies. It contains step-by-step advice on how to prepare for, respond to, and recover from disasters.
- Used in conjunction with information and instructions from local emergency management offices and the American Red Cross, *Are You Ready?* will give you what you need to be prepared.

Using Are You Ready? to Prepare

The main reason to use this guide is to help protect yourself and your family in the event of an emergency. Through applying what you have learned in this guide, you are taking the necessary steps to be ready when an event occurs.

Every citizen in this country is part of a national emergency management system that is all about protection–protecting people and property from all types of hazards. Think of the national emergency management system as a pyramid with you, the citizen, forming the base of the structure. At this level, you have a responsibility to protect yourself and your family by knowing what to do before, during, and after an event. Some examples of what you can do follow:

Before
- Know the risks and danger signs.
- Purchase insurance, including flood insurance, which is not part of your homeowner's policy.
- Develop plans for what to do.
- Assemble a disaster supplies kit.
- Volunteer to help others.

During
- Put your plan into action.
- Help others.
- Follow the advice and guidance of officials in charge of the event.

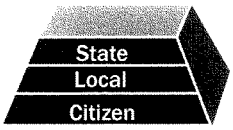
After
- Repair damaged property.
- Take steps to prevent or reduce future loss.

You will learn more about these and other actions you should take as you progress through this guide.

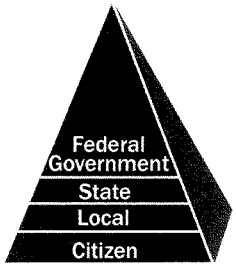
It is sometimes necessary to turn to others within the local community for help. The local level is the second tier of the pyramid, and is made up of paid employees and volunteers from the private and public sectors. These individuals are engaged in preventing emergencies from happening and in being prepared to respond if something does occur. Most emergencies are handled at the local level, which puts a tremendous responsibility on the community for taking care of its citizens. Among the responsibilities faced by local officials are:

- Identifying hazards and assessing potential risk to the community.
- Enforcing building codes, zoning ordinances, and land-use management programs.
- Coordinating emergency plans to ensure a quick and effective response.
- Fighting fires and responding to hazardous materials incidents.
- Establishing warning systems.
- Stocking emergency supplies and equipment.
- Assessing damage and identifying needs.

- Evacuating the community to safer locations.
- Taking care of the injured.
- Sheltering those who cannot remain in their homes.
- Aiding recovery efforts.



If support and resources are needed beyond what the local level can provide, the community can request assistance from the state. The state may be able to provide supplemental resources such as money, equipment, and personnel to close the gap between what is needed and what is available at the local level. The state also coordinates the plans of the various jurisdictions so that activities do not interfere or conflict with each other. To ensure personnel know what to do and efforts are in agreement, the state may offer a program that provides jurisdictions the opportunity to train and exercise together.



At the top of the pyramid is the federal government, which can provide resources to augment state and local efforts. These resources can be in the form of:

- Public educational materials, such as this guide, that can be used to prepare the public for protecting itself from hazards.
- Financial grants for equipment, training, exercises, personnel, and programs.
- Grants and loans to help communities respond to and recover from disasters so severe that the President of the United States has deemed them beyond state and local capabilities.
- Research findings that can help reduce losses from disaster.
- Technical assistance to help build stronger programs.

The national emergency management system is built on shared responsibilities and active participation at all levels of the pyramid. The whole system begins with you, the citizen, and your ability to follow good emergency management practices—whether at home, work, or other locations.

Are You Ready? An In-depth Guide to Citizen Preparedness is organized to help you through the process. Begin by reading Part 1 which is the core of the guide. This part provides basic information that is common to all hazards on how to create and maintain an emergency plan and disaster supplies kit.

Part 1: Basic Preparedness

- A series of worksheets to help you obtain information from the community that will form the foundation of your plan. You will need to find out about hazards that threaten the community, how the population will be warned, evacuation routes to be used in times of disaster, and the emergency plans of the community and others that will impact your plan.
- Guidance on specific content that you and your family will need to develop and include in your plan on how to escape from your residence, communicate with one another during times of disaster, shut-off household utilities, insure against financial loss, acquire basic safety skills, address special needs such as disabilities, take care of animals, and seek shelter.

- Checklists of items to consider including in your disaster supplies kit that will meet your family's needs following a disaster whether you are at home or at other locations.

Part 1 is also the gateway to the specific hazards and recovery information contained in Parts 2, 3, 4, and 5. Information from these sections should be read carefully and integrated in your emergency plan and disaster supplies kit based on the hazards that pose a threat to you and your family.

Part 2: Natural Hazards

- Floods
- Hurricanes
- Thunderstorms and lightning
- Tornadoes
- Winter storms and extreme cold
- Extreme heat
- Earthquakes
- Volcanoes
- Landslides and debris flow
- Tsunamis
- Fires
- Wildfires

Part 3: Technological Hazards

- Hazardous materials incidents
- Household chemical emergencies
- Nuclear power plant emergencies

Part 4: Terrorism

- Explosions
- Biological threats
- Chemical threats
- Nuclear blasts
- Radiological dispersion device events

Part 5: Recovering from Disaster

- Health and safety guidelines
- Returning home
- Seeking disaster assistance
- Coping with disaster
- Helping others

References

As you work through individual sections, you will see reference points. These are reminders to refer to previous sections for related information on the topic being discussed.

FEMA Publications

Throughout the guide are lists of publications available from FEMA that can help you learn more about the topics covered. To obtain these publications, call the FEMA Distribution Center at 1-800-480-2520 or request them by mail from:

Federal Emergency Management Agency
P.O. Box 2012
Jessup, MD 20794-2012

Other Publications

Other publications cited throughout this guide can be obtained by contacting the organizations below:

American Red Cross National Headquarters
2025 E Street, NW
Washington, DC 20006
Phone: (202) 303-4498
www.redcross.org/pubs/dspubs/cde.html

National Weather Service
1325 East West Highway
Silver Spring, MD 20910
www.nws.noaa.gov/education.html

Centers for Disease Control and Prevention
1600 Clifton Rd, Atlanta, GA 30333, U.S.A
Public Inquiries: (404) 639-3534 / (800) 311-3435
www.cdc.gov

U.S. Geological Survey
Information Services
P.O. Box 25286
Denver, CO 80225
1 (888) 275-8747
www.usgs.gov

Disaster Public Education Web sites

You can broaden your knowledge of disaster preparedness topics presented in this guide by reviewing information provided at various government and non-government Web sites. Provided below is a list of recommended sites. The Web address for each site reflects its home address. Searches conducted from each home site's page result in the most current and extensive list of available material for the site.

Government Sites	
Be Ready Campaign	www.ready.gov
Agency for Toxic Substances and Disease Registry	www.atsdr.cdc.gov
Centers for Disease Control and Prevention	www.cdc.gov
Citizen Corps	www.citizencorps.gov
Department of Commerce	www.doc.gov
Department of Education	www.ed.gov
Department of Energy	www.energy.gov
Department of Health and Human Services	www.hhs.gov/disasters
Department of Homeland Security	www.dhs.gov
Department of Interior	www.doi.gov
Department of Justice	www.justice.gov
Environmental Protection Agency	www.epa.gov
Federal Emergency Management Agency	www.fema.gov
Food and Drug Administration	www.fda.gov
National Oceanic and Atmospheric Administration	www.noaa.gov
National Weather Service	www.nws.noaa.gov
Nuclear Regulatory Commission	www.nrc.gov
The Critical Infrastructure Assurance Office	www.ciao.gov
The White House	www.whitehouse.gov/response
U.S. Department of Agriculture	www.usda.gov
U.S. Fire Administration	www.usfa.fema.gov
U.S. Fire Administration Kids Page	www.usfa.fema.gov/kids
U.S. Geological Survey	www.usgs.gov
U.S. Office of Personnel Management	www.opm.gov/emergency
U.S. Postal Service	www.usps.gov
USDA Forest Service Southern Research Station	www.wildfireprograms.com
Non-government Sites	
American Red Cross	www.redcross.org
Institute for Business and Home Safety	www.ibhs.org
National Fire Protection Association	www.nfpa.org
National Mass Fatalities Institute	www.nmfi.org
National Safety Compliance	www.osha-safety-training.net
The Middle East Seismological Forum	www.meieisforum.net
The Pan American Health Organization	www.disaster-info.net/SUMA

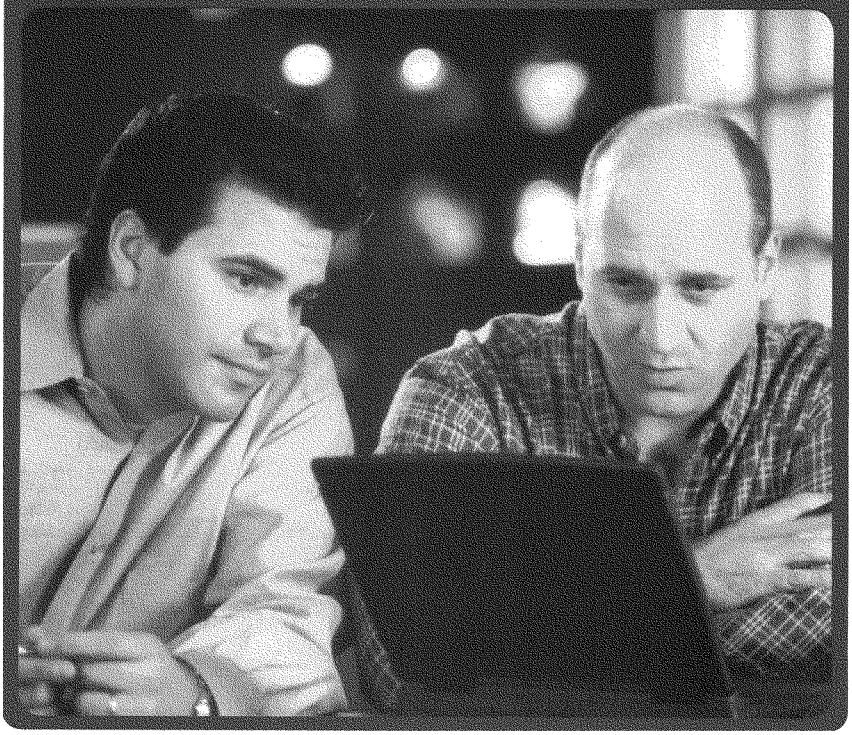
1 Basic Preparedness

In this part of the guide, you will learn preparedness strategies that are common to all disasters. You plan only once, and are able to apply your plan to all types of hazards.

When you complete Part 1, you will be able to:

- Get informed about hazards and emergencies that may affect you and your family.
- Develop an emergency plan.
- Collect and assemble disaster supplies kit.
- Learn where to seek shelter from all types of hazards.
- Identify the community warning systems and evacuation routes.
- Include in your plan required information from community and school plans.
- Learn what to do for specific hazards.
- Practice and maintain your plan.

1.1 Getting Informed



Learn about the hazards that may strike your community, the risks you face from these hazards, and your community's plans for warning and evacuation. You can obtain this information from your local emergency management office or your local chapter of the American Red Cross. Space has been provided here to record your answers.

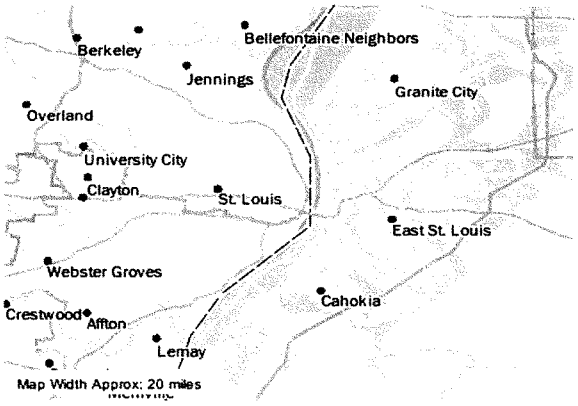
Hazards

Ask local authorities about each possible hazard or emergency and use the worksheet that follows to record your findings and suggestions for reducing your family's risk.

Possible Hazards and Emergencies	Risk Level (None, Low, Moderate, or High)	How can I reduce my risk?
Natural Hazards		
1. Floods		
2. Hurricanes		
3. Thunderstorms and Lightning		
4. Tornadoes		
5. Winter Storms and Extreme Cold		
6. Extreme Heat		
7. Earthquakes		
8. Volcanoes		
9. Landslides and Debris Flow		
10. Tsunamis		
11. Fires		
12. Wildfires		

Technological Hazards		
1. Hazardous Materials Incidents		
2. Nuclear Power Plants		
Terrorism		
1. Explosions		
2. Biological Threats		
3. Chemical Threats		
4. Nuclear Blasts		
5. Radiological Dispersion Device (RDD)		

You also can consult FEMA for hazard maps for your area. Go to www.fema.gov, select maps, and follow the directions. National hazard maps have been included with each natural hazard in Part 2 of this guide.



Warning Systems and Signals

The Emergency Alert System (EAS) can address the entire nation on very short notice in case of a grave threat or national emergency. Ask if your local radio and TV stations participate in the EAS.

National Oceanic & Atmospheric Administration (NOAA) Weather Radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from a nearby National Weather Service office to specially configured NOAA weather radio receivers. Determine if NOAA Weather Radio is available where you live. If so, consider purchasing a NOAA weather radio receiver.

Ask local authorities about methods used to warn your community.

Warning System	What should we do?
EAS	
NOAA Weather Radio	

Evacuating Yourself and Your Family

When community evacuations become necessary, local officials provide information to the public through the media. In some circumstances, other warning methods, such as sirens or telephone calls, also are used. Additionally, there may be circumstances under which you and your family feel threatened or endangered and you need to leave your home, school, or workplace to avoid these situations.

The amount of time you have to leave will depend on the hazard. If the event is a weather condition, such as a hurricane that can be monitored, you might have a day or two to get ready. However, many disasters allow no time for people to gather even the most basic necessities, which is why planning ahead is essential.

Evacuation: More Common than You Realize

Evacuations are more common than many people realize. Hundreds of times each year, transportation and industrial accidents release harmful substances, forcing thousands of people to leave their homes. Fires and floods cause evacuations even more frequently. Almost every year, people along the Gulf and Atlantic coasts evacuate in the face of approaching hurricanes.

Ask local authorities about emergency evacuation routes.

Record your specific evacuation route directions in the space provided.

Is there a map available with evacuation routes marked? ☐ Yes ☐ No

Evacuation Guidelines

Always:	*If time permits:*
Keep a full tank of gas in your car if an evacuation seems likely. Gas stations may be closed during emergencies and unable to pump gas during power outages. Plan to take one car per family to reduce congestion and delay.	Gather your disaster supplies kit.
Make transportation arrangements with friends or your local government if you do not own a car.	Wear sturdy shoes and clothing that provides some protection, such as long pants, long-sleeved shirts, and a cap.
Listen to a battery-powered radio and follow local evacuation instructions.	Secure your home: • Close and lock doors and windows. • Unplug electrical equipment, such as radios and televisions, and small appliances, such as toasters and microwaves. Leave freezers and refrigerators plugged in unless there is a risk of flooding.
Gather your family and go if you are instructed to evacuate immediately.	Let others know where you are going.
Leave early enough to avoid being trapped by severe weather.	
Follow recommended evacuation routes. Do not take shortcuts; they may be blocked.	
Be alert for washed-out roads and bridges. Do not drive into flooded areas.	
Stay away from downed power lines.	

Community and Other Plans

Ask local officials the following questions about your community's disaster/ emergency plans.

Does my community have a plan? ☐ Yes ☐ No

Can I obtain a copy? ☐ Yes ☐ No

What does the plan contain? _____

_____

How often is it updated? _____

What should I know about the plan? _____

_____

What hazards does it cover? _____

_____

In addition to finding out about your community's plan, it is important that you know what plans are in place for your workplace and your children's school or day care center.

1. Ask your employer about workplace policies regarding disasters and emergencies, including understanding how you will be provided emergency and warning information.
2. Contact your children's school or day care center to discuss their disaster procedures.

School Emergency Plans

Know your children's school emergency plan:

- Ask how the school will communicate with families during a crisis.
- Ask if the school stores adequate food, water, and other basic supplies.
- Find out if the school is prepared to shelter-in-place if need be, and where they plan to go if they must get away.

In cases where schools institute procedures to shelter-in-place, you may not be permitted to drive to the school to pick up your children. Even if you go to the school, the doors will likely be locked to keep your children safe. Monitor local media outlets for announcements about changes in school openings and closings, and follow the directions of local emergency officials.

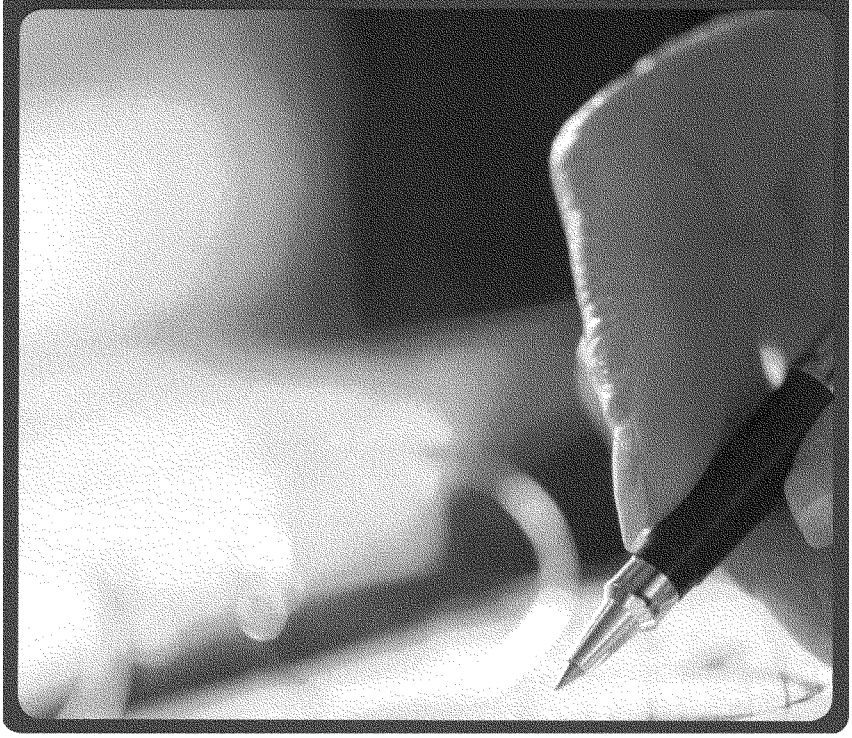
For more information on developing emergency preparedness plans for schools, please log on to the U.S. Department of Education at www.ed.gov/emergencyplan.

Workplace Plans

If you are an employer, make sure your workplace has a building evacuation plan that is regularly practiced.

- Take a critical look at your heating, ventilation and air conditioning system to determine if it is secure or if it could feasibly be upgraded to better filter potential contaminants, and be sure you know how to turn it off if you need to.
- Think about what to do if your employees can't go home.
- Make sure you have appropriate supplies on hand.

1.2 Emergency Planning and Checklists



Now that you've learned about what can happen and how your community is prepared to respond to emergencies, prepare your family by creating a family disaster plan. You can begin this process by gathering family members and reviewing the information you obtained in Section 1.1 (hazards, warning systems, evacuation routes and community and other plans). Discuss with them what you would do if family members are not home when a warning is issued. Additionally, your family plan should address the following:

- Escape routes.
- Family communications.
- Utility shut-off and safety.
- Insurance and vital records.
- Special needs.
- Caring for animals.
- Saftey Skills

Information on these family planning considerations are covered in the following sections.

Escape Routes

Draw a floor plan of your home. Use a blank sheet of paper for each floor. Mark two escape routes from each room. Make sure children understand the drawings. Post a copy of the drawings at eye level in each child's room.

Where to Meet

Establish a place to meet in the event of an emergency, such as a fire. Record the locations below:

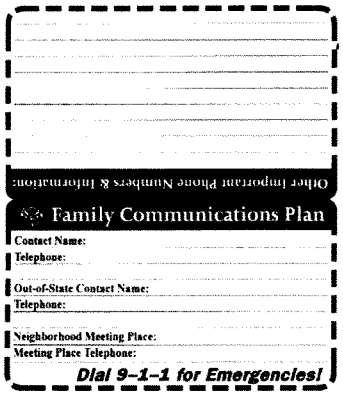
	Where to meet...
Near the home	
Outside the immediate area	

Family Communications

Your family may not be together when disaster strikes, so plan how you will contact one another. Think about how you will communicate in different situations.

Complete a contact card for each family member. Have family members keep these cards handy in a wallet, purse, backpack, etc. You may want to send one to school with each child to keep on file. Pick a friend or relative who lives out-of-state for household members to notify they are safe.

Below is a sample contact card. Copies to fill out can be found in Appendix C. Also in Appendix C is a more detailed Family Communications Plan which should be completed and posted so the contact information is readily accessible to all family members. A copy should also be included in your family disaster supplies kit.



Utility Shut-off and Safety

In the event of a disaster, you may be instructed to shut off the utility service at your home.

Below is some general guidance for shutting off utility service:

Modify the information provided to reflect your shut off requirements as directed by your utility company(ies).

Natural Gas

Natural gas leaks and explosions are responsible for a significant number of fires following disasters. It is vital that all household members know how to shut off natural gas.

Because there are different gas shut-off procedures for different gas meter configurations, it is important to contact your local gas company for guidance on preparation and response regarding gas appliances and gas service to your home.

When you learn the proper shut-off procedure for your meter, share the information with everyone in your household. Be sure not to actually turn off the gas when practicing the proper gas shut-off procedure.

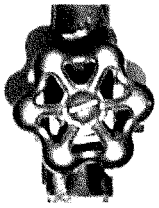
If you smell gas or hear a blowing or hissing noise, open a window and get everyone out quickly. Turn off the gas, using the outside main valve if you can, and call the gas company from a neighbor's home.

> **CAUTION** – If you turn off the gas for any reason, a qualified professional must turn it back on. NEVER attempt to turn the gas back on yourself.

Water

Water quickly becomes a precious resource following many disasters. It is vital that all household members learn how to shut off the water at the main house valve.

- Cracked lines may pollute the water supply to your house. It is wise to shut off your water until you hear from authorities that it is safe for drinking.
- The effects of gravity may drain the water in your hot water heater and toilet tanks unless you trap it in your house by shutting off the main house valve (not the street valve in the cement box at the curb—this valve is extremely difficult to turn and requires a special tool).



Preparing to Shut Off Water

- Locate the shut-off valve for the water line that enters your house. It may look like this:
- Make sure this valve can be completely shut off. Your valve may be rusted open, or it may only partially close. Replace it if necessary.

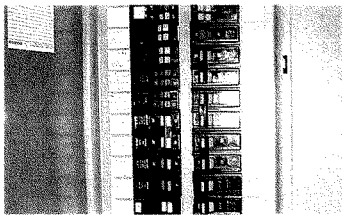
- Label this valve with a tag for easy identification, and make sure all household members know where it is located.

Electricity

Electrical sparks have the potential of igniting natural gas if it is leaking. It is wise to teach all responsible household members where and how to shut off the electricity.

Preparing to Shut Off Electricity

- Locate your electricity circuit box.
- Teach all responsible household members how to shut off the electricity to the entire house.



FOR YOUR SAFETY: Always shut off all the individual circuits before shutting off the main circuit breaker.

Insurance and Vital Records

Obtain property, health, and life insurance if you do not have them. Review existing policies for the amount and extent of coverage to ensure that what you have in place is what is required for you and your family for all possible hazards.

Flood Insurance

If you live in a flood-prone area, consider purchasing flood insurance to reduce your risk of flood loss. Buying flood insurance to cover the value of a building and its contents will not only provide greater peace of mind, but will speed the recovery if a flood occurs. You can call 1(888)FLOOD29 to learn more about flood insurance.

Inventory Home Possessions

Make a record of your personal property, for insurance purposes. Take photos or a video of the interior and exterior of your home. Include personal belongings in your inventory.

You may also want to download the free *Household and Personal Property Inventory Book* from the University of Illinois at www.ag.uiuc.edu/~vista/abstracts/ahouseinv.html to help you record your possessions.

Important Documents

Store important documents such as insurance policies, deeds, property records, and other important papers in a safe place, such as a safety deposit box away from your home. Make copies of important documents for your disaster supplies kit. (Information about the disaster supplies kit is covered later.)

Money

Consider saving money in an emergency savings account that could be used in any crisis. It is advisable to keep a small amount of cash or traveler's checks at home in a safe place where you can quickly access them in case of evacuation.

Special Needs

If you or someone close to you has a disability or a special need, you may have to take additional steps to protect yourself and your family in an emergency.

Disability/Special Need	Additional Steps
Hearing impaired	May need to make special arrangements to receive warnings.
Mobility impaired	May need special assistance to get to a shelter.
Single working parent	May need help to plan for disasters and emergencies.
Non-English speaking persons	May need assistance planning for and responding to emergencies. Community and cultural groups may be able to help keep people informed.
People without vehicles	May need to make arrangements for transportation.
People with special dietary needs	Should take special precautions to have an adequate emergency food supply.

Planning for Special Needs

If you have special needs:

- Find out about special assistance that may be available in your community. Register with the office of emergency services or the local fire department for assistance so needed help can be provided.

- Create a network of neighbors, relatives, friends, and coworkers to aid you in an emergency. Discuss your needs and make sure everyone knows how to operate necessary equipment.
- Discuss your needs with your employer.
- If you are mobility impaired and live or work in a high-rise building, have an escape chair.
- If you live in an apartment building, ask the management to mark accessible exits clearly and to make arrangements to help you leave the building.
- Keep specialized items ready, including extra wheelchair batteries, oxygen, catheters, medication, food for service animals, and any other items you might need.
- Be sure to make provisions for medications that require refrigeration.
- Keep a list of the type and model numbers of the medical devices you require.

Caring for Animals

Animals also are affected by disasters. Use the guidelines below to prepare a plan for caring for pets and large animals.

Guidelines for Pets

Plan for pet disaster needs by:

- Identifying shelter.
- Gathering pet supplies.
- Ensuring your pet has proper ID and up-to-date veterinarian records.
- Providing a pet carrier and leash.

Take the following steps to prepare to shelter your pet:

- Call your local emergency management office, animal shelter, or animal control office to get advice and information.
- Keep veterinary records to prove vaccinations are current.
- Find out which local hotels and motels allow pets and where pet boarding facilities are located. Be sure to research some outside your local area in case local facilities close.
- Know that, with the exception of service animals, pets are not typically permitted in emergency shelters as they may affect the health and safety of other occupants.

Guidelines for Large Animals

If you have large animals such as horses, cattle, sheep, goats, or pigs on your property, be sure to prepare before a disaster.

Use the following guidelines:

1. Ensure all animals have some form of identification.
2. Evacuate animals whenever possible. Map out primary and secondary routes in advance.
3. Make available vehicles and trailers needed for transporting and supporting each type of animal. Also make available experienced handlers and drivers.

   Note: It is best to allow animals a chance to become accustomed to vehicular travel so they are less frightened and easier to move.
4. Ensure destinations have food, water, veterinary care, and handling equipment.
5. If evacuation is not possible, animal owners must decide whether to move large animals to shelter or turn them outside.

Safety Skills

It is important that family members know how to administer first aid and CPR and how to use a fire extinguisher.

Learn First Aid and CPR

Take a first aid and CPR class. Local American Red Cross chapters can provide information about this type of training. Official certification by the American Red Cross provides, under the "good Samaritan" law, protection for those giving first aid.

Learn How to Use a Fire Extinguisher

Be sure everyone knows how to use your fire extinguisher(s) and where it is kept. You should have, at a minimum, an ABC type.

1.3 Assemble a Disaster Supplies Kit

You may need to survive on your own after a disaster. This means having your own food, water, and other supplies in sufficient quantity to last for at least three days. Local officials and relief workers will be on the scene after a disaster, but they cannot reach everyone immediately. You could get help in hours, or it might take days.

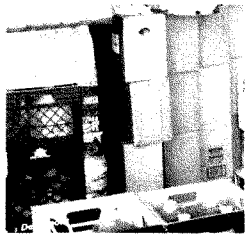
Basic services such as electricity, gas, water, sewage treatment, and telephones may be cut off for days, or even a week or longer. Or, you may have to evacuate at a moment's notice and take essentials with you. You probably will not have the opportunity to shop or search for the supplies you need.

A disaster supplies kit is a collection of basic items that members of a household may need in the event of a disaster.

Kit Locations

Since you do not know where you will be when an emergency occurs, prepare supplies for home, work, and vehicles.

Home	Work	Car
Your disaster supplies kit should contain essential food, water, and supplies for at least three days. Keep this kit in a designated place and have it ready in case you have to leave your home quickly. Make sure all family members know where the kit is kept. Additionally, you may want to consider having supplies for sheltering for up to two weeks.	This kit should be in one container, and ready to "grab and go" in case you are evacuated from your workplace. Make sure you have food and water in the kit. Also, be sure to have comfortable walking shoes at your workplace in case an evacuation requires walking long distances.	In case you are stranded, keep a kit of emergency supplies in your car. This kit should contain food, water, first aid supplies, flares, jumper cables, and seasonal supplies.



Water

How Much Water do I Need?

You should store at least one gallon of water per person per day. A normally active person needs at least one-half gallon of water daily just for drinking.

Additionally, in determining adequate quantities, take the following into account:

- Individual needs vary, depending on age, physical condition, activity, diet, and climate.
- Children, nursing mothers, and ill people need more water.
- Very hot temperatures can double the amount of water needed.
- A medical emergency might require additional water.

How Should I Store Water?

To prepare safest and most reliable emergency supply of water, it is recommended you purchase commercially bottled water. Keep bottled water in its original container and do not open it until you need to use it.

Observe the expiration or "use by" date.

If you are preparing your own containers of water

It is recommended you purchase food-grade water storage containers from surplus or camping supplies stores to use for water storage. Before filling with water, thoroughly clean the containers with dishwashing soap and water, and rinse completely so there is no residual soap. Follow directions below on filling the container with water.

If you choose to use your own storage containers, choose two-liter plastic soft drink bottles – not plastic jugs or cardboard containers that have had milk or fruit juice in them. Milk protein and fruit sugars cannot be adequately removed from these containers and provide an environment for bacterial growth when water is stored in them. Cardboard containers also leak easily and are not designed for long-term storage of liquids. Also, do not use glass containers, because they can break and are heavy.

If storing water in plastic soda bottles, follow these steps

Thoroughly clean the bottles with dishwashing soap and water, and rinse completely so there is no residual soap.

Sanitize the bottles by adding a solution of 1 teaspoon of non-scented liquid household chlorine bleach to a quart of water. Swish the sanitizing solution in the bottle so that it touches all surfaces. After sanitizing the bottle, thoroughly rinse out the sanitizing solution with clean water.

Filling water containers

Fill the bottle to the top with regular tap water. If the tap water has been commercially treated from a water utility with chlorine, you do not need to add anything else to the water to keep it clean. If the water you are using comes from a well or water source that is not treated with chlorine, add two drops of non-scented liquid household chlorine bleach to the water.

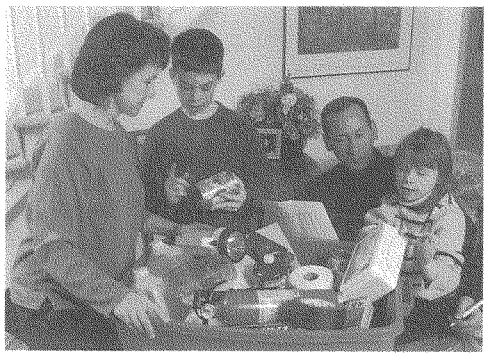
Tightly close the container using the original cap. Be careful not to contaminate the cap by touching the inside of it with your finger. Place a date on the outside of the container so that you know when you filled it. Store in a cool, dark place.

Replace the water every six months if not using commercially bottled water.

Food

The following are things to consider when putting together your food supplies:

- Avoid foods that will make you thirsty. Choose salt-free crackers, whole grain cereals, and canned foods with high liquid content.
- Stock canned foods, dry mixes, and other staples that do not require refrigeration, cooking, water, or special preparation. You may already have many of these on hand. **Note:** Be sure to include a manual can opener.
- Include special dietary needs.



Basic Disaster Supplies Kit

The following items are recommended for inclusion in your basic disaster supplies kit:

- Three-day supply of non-perishable food.
- Three-day supply of water – one gallon of water per person, per day.
- Portable, battery-powered radio or television and extra batteries.
- Flashlight and extra batteries.
- First aid kit and manual.
- Sanitation and hygiene items (moist towelettes and toilet paper).
- Matches and waterproof container.
- Whistle.
- Extra clothing.
- Kitchen accessories and cooking utensils, including a can opener.
- Photocopies of credit and identification cards.
- Cash and coins.
- Special needs items, such as prescription medications, eye glasses, contact lens solutions, and hearing aid batteries.
- Items for infants, such as formula, diapers, bottles, and pacifiers.
- Other items to meet your unique family needs.

If you live in a cold climate, you must think about warmth. It is possible that you will not have heat. Think about your clothing and bedding supplies. Be sure to include one complete change of clothing and shoes per person, including:

- Jacket or coat.
- Long pants.
- Long sleeve shirt.
- Sturdy shoes.
- Hat, mittens, and scarf.
- Sleeping bag or warm blanket (per person).

Be sure to account for growing children and other family changes. See Appendix B for a detailed checklist of disaster supplies. You may want to add some of the items listed to your basic disaster supplies kit depending on the specific needs of your family.

Maintaining Your Disaster Supplies Kit

Just as important as putting your supplies together is maintaining them so they are safe to use when needed. Here are some tips to keep your supplies ready and in good condition:

- Keep canned foods in a dry place where the temperature is cool.
- Store boxed food in tightly closed plastic or metal containers to protect from pests and to extend its shelf life.
- Throw out any canned good that becomes swollen, dented, or corroded.
- Use foods before they go bad, and replace them with fresh supplies.
- Place new items at the back of the storage area and older ones in the front.
- Change stored food and water supplies every six months. Be sure to write the date you store it on all containers.
- Re-think your needs every year and update your kit as your family needs change.
- Keep items in airtight plastic bags and put your entire disaster supplies kit in one or two easy-to-carry containers, such as an unused trashcan, camping backpack, or duffel bag.

1.4 Shelter

Taking shelter is critical in times of disaster. Sheltering is appropriate when conditions require that you seek protection in your home, place of employment, or other location where you are when disaster strikes. Sheltering outside the hazard area would include staying with friends and relatives, seeking commercial lodging, or staying in a mass care facility operated by disaster relief groups in conjunction with local authorities.

To effectively shelter, you must first consider the hazard and then choose a place in your home or other building that is safe for that hazard. For example, for a tornado, a room should be selected that is in a basement or an interior room on the lowest level away from corners, windows, doors and outside walls. Because the safest locations to seek shelter vary by hazard, sheltering is discussed in the various hazard sections. These discussions include recommendations for sealing the shelter if the hazards warrants this type of protection.

Even though mass care shelters often provide water, food, medicine, and basic sanitary facilities, you should plan to take your disaster supplies kit with you so you will have the supplies you require. Mass care sheltering can involve living with many people in a confined space, which can be difficult and unpleasant. To avoid conflicts in this stressful situation, it is important to cooperate with shelter managers and others assisting them. Keep in mind that alcoholic beverages and weapons are forbidden in emergency shelters and smoking is restricted.

The length of time you are required to shelter may be short, such as during a tornado warning, or long, such as during a winter storm. It is important that you stay in shelter until local authorities say it is safe to leave. Additionally, you should take turns listening to radio broadcasts and maintain a 24-hour safety watch.

During extended periods of sheltering, you will need to manage water and food supplies to ensure you and your family have the required supplies and quantities. Guidance on how to accomplish this follows.

Managing Water

Essentials

1. **Allow people to drink according to their needs.** Many people need even more than the average of one-half gallon, per day. The individual amount needed depends on age, physical activity, physical condition, and time of year.

2. **Never ration water unless ordered to do so by authorities.** Drink the amount you need today and try to find more for tomorrow. Under no circumstances should a person drink less than one quart (four cups) of water each day. You can minimize the amount of water your body needs by reducing activity and staying cool.
3. **Drink water that you know is not contaminated first.** If necessary, suspicious water, such as cloudy water from regular faucets or water from streams or ponds, can be used after it has been treated. If water treatment is not possible, put off drinking suspicious water as long as possible, but do not become dehydrated.
4. **Do not drink carbonated beverages instead of drinking water.** Carbonated beverages do not meet drinking-water requirements. Caffeinated drinks and alcohol dehydrate the body, which increases the need for drinking water.
5. **Turn off the main water valves.** You will need to protect the water sources already in your home from contamination if you hear reports of broken water or sewage lines, or if local officials advise you of a problem. To close the incoming water source, locate the incoming valve and turn it to the closed position. Be sure you and other family members know how to perform this important procedure.
   - To use the water in your pipes, let air into the plumbing by turning on the faucet in your home at the highest level. A small amount of water will trickle out. Then obtain water from the lowest faucet in the home.
   - To use the water in your hot-water tank, be sure the electricity or gas is off, and open the drain at the bottom of the tank. Start the water flowing by turning off the water intake valve at the tank and turning on the hot-water faucet. Refill the tank before turning the gas or electricity back on. If the gas is turned off, a professional will be needed to turn it back on.

Review

Section 1.2: Emergency Planning and Checklists

Water Sources

Safe Sources	Unsafe Sources
Melted ice cubes	Radiators
Water drained from the water heater (if the water heater has not been damaged)	Hot water boilers (home heating system)
Liquids from canned goods such as fruit or vegetable juices	Water beds (fungicides added to the water or chemicals in the vinyl may make water unsafe to use)
Water drained from pipes	Water from the toilet bowl or flush tank
	Swimming pools and spas (chemicals used to kill germs are too concentrated for safe drinking but can be used for personal hygiene, cleaning, and related uses)

Water Treatment

Treat all water of uncertain quality before using it for drinking, food washing or preparation, washing dishes, brushing teeth, or making ice. In addition to having a bad odor and taste, contaminated water can contain microorganisms (germs) that cause diseases such as dysentery, cholera, typhoid, and hepatitis.

Review

How I Should Store Water, Section 1.3

There are many ways to treat water. None is perfect. Often the best solution is a combination of methods. Before treating, let any suspended particles settle to the bottom or strain them through coffee filters or layers of clean cloth.

Make sure you have the necessary materials in your disaster supplies kit for the chosen water treatment method.

There are three water treatment methods. They are as follows:

- Boiling
- Chlorination
- Distillation

These instructions are for treating water of uncertain quality in an emergency situation, when no other reliable clean water source is available, or you have used all of your stored water.

Boiling

Boiling is the safest method of treating water. In a large pot or kettle, bring water to a rolling boil for 1 full minute, keeping in mind that some water will evaporate. Let the water cool before drinking.

Boiled water will taste better if you put oxygen back into it by pouring the water back and forth between two clean containers. This also will improve the taste of stored water.

Chlorination

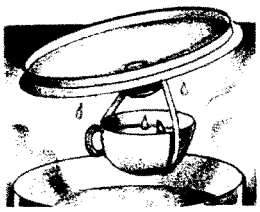
You can use household liquid bleach to kill microorganisms. Use only regular household liquid bleach that contains 5.25 to 6.0 percent sodium hypochlorite. Do not use scented bleaches, color safe bleaches, or bleaches with added cleaners. Because the potency of bleach diminishes with time, use bleach from a newly opened or unopened bottle.

Add 16 drops (1/8 teaspoon) of bleach per gallon of water, stir, and let stand for 30 minutes. The water should have a slight bleach odor. If it doesn't, then repeat the dosage and let stand another 15 minutes. If it still does not smell of chlorine, discard it and find another source of water.

Other chemicals, such as iodine or water treatment products sold in camping or surplus stores that do not contain 5.25 to 6.0 percent sodium hypochlorite as the only active ingredient, are not recommended and should not be used.

Distillation

While the two methods described above will kill most microbes in water, distillation will remove microbes (germs) that resist these methods, as well as heavy metals, salts, and most other chemicals.



Distillation involves boiling water and then collecting only the vapor that condenses. The condensed vapor will not include salt or most other impurities. To distill, fill a pot halfway with water. Tie a cup to the handle on the pot's lid so that the cup will hang right-side-up when the lid is upside-down (make sure the cup is not dangling into the water) and boil the water for 20 minutes. The water that drips from the lid into the cup is distilled.

Effectiveness of Water Treatment Methods

Methods	Kills Microbes	Removes other contaminants (heavy metals, salts, and most other chemicals)
Boiling	√	
Chlorination	√	
Distillation	√	√

Managing Food Supplies

Safety and Sanitation

Do:	Don't:
• Keep food in covered containers • Keep cooking and eating utensils clean • Keep garbage in closed containers and dispose outside, burying garbage if necessary • Keep your hands clean by washing them frequently with soap and water that has been boiled or disinfected • Use only pre-prepared canned baby formula for infants • Discard any food that has come into contact with contaminated floodwater • Discard any food that has been at room temperature for two hours or more • Discard any food that has an unusual odor, color, or texture	• Eat foods from cans that are swollen, dented, or corroded, even though the product may look safe to eat • Eat any food that looks or smells abnormal, even if the can looks normal • Use powdered formulas with treated water • Let garbage accumulate inside, both for fire and sanitation reasons

Note: Thawed food usually can be eaten if it is still "refrigerator cold." It can be re-frozen if it still contains ice crystals. To be safe, remember, "When in doubt, throw it out."

Cooking

- Alternative cooking sources in times of emergency include candle warmers, chafing dishes, fondue pots, or a fireplace.
- Charcoal grills and camp stoves are for outdoor use only.
- Commercially canned food may be eaten out of the can without warming.
- To heat food in a can:
  1. Remove the label.
  2. Thoroughly wash and disinfect the can. (Use a diluted solution of one part bleach to ten parts water.)
  3. Open the can before heating.

Managing without Power

Here are two options for keeping food safe if you are without power for a long period:

- Look for alternate storage space for your perishable food.
- Use dry ice. Twenty-five pounds of dry ice will keep a 10-cubic-foot freezer below freezing for 3-4 days. Use care when handling dry ice, and wear dry, heavy gloves to avoid injury.

1.5 Hazard-Specific Preparedness

There are actions that should be taken before, during, and after an event that are unique to each hazard. For example:

- Seeking a safe shelter during a tornado.
- Reducing property loss from a hurricane.

Information about the specific hazards and what to do for each is provided in Parts 2, 3, and 4. Study the material for those hazards that you identified in Section 1.1 as the ones that have happened or could happen. Share the hazard-specific information with family members and include pertinent material from these parts in your family disaster plan.

1.6 Practicing and Maintaining Your Plan

Once you have developed your plan, you need to practice and maintain it. For example, ask questions to make sure your family remembers meeting places, phone numbers, and safety rules. Conduct drills such as drop, cover, and hold on for earthquakes. Test fire alarms. Replace and update disaster supplies.

For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

FEMA Publications

Disaster Preparedness Coloring Book. FEMA-243. Coloring book for ages 3-10. Also available in Spanish.

Before Disaster Strikes. FEMA A-291. Contains information about how to make sure you are financially prepared to deal with a natural disaster. Also available in Spanish.

The Adventures of Julia and Robbie: Disaster Twins. FEMA-344. A collection of disaster related stories. Includes information on preparedness and how to mitigate against disasters.

FEMA for Kids. L-229. Provides information about what FEMA (specifically fema.gov) has to offer children.

Community Shelter. FEMA 361. Contains guidelines for constructing mass shelters for public refuge in schools, hospitals, and other places.

Food and Water in an Emergency. L-210 If an earthquake, hurricane, winter storm, or other disaster strikes your community, you might not have access to food, water, and electricity for days, or even weeks. By taking some time now to store emergency food and water supplies, you can provide for your entire family. Also available online at www.fema.gov/pdf/library/f&web.pdf.

Helping Children Cope with Disaster. FEMA L-196. Helps families understand how to help children cope with disaster and its aftermath.

Assisting People with Disabilities in a Disaster. Information about helping people with disabilities in a disaster and resources for individuals with disabilities. Available online at www.fema.gov/rrr/assistf.shtm.

American Red Cross Publications

Facing Fear: Helping Young People Deal with Terrorism and Tragic Events. A school curriculum designed to help alleviate worries and clear up confusion about perceived and actual threats to safety. Available online at www.redcross.org/disaster/masters/facingfear, or contact your local Red Cross chapter.

2 Natural Hazards

Part 2 includes information about many types of natural hazards. Natural hazards are natural events that threaten lives, property, and other assets. Often, natural hazards can be predicted. They tend to occur repeatedly in the same geographical locations because they are related to weather patterns or physical characteristics of an area.

Natural hazards such as flood, fire, earthquake, tornado, and windstorms affect thousands of people every year. We need to know what our risks are from natrual hazards and take sensible precautions to protect ourselves, our families, and our communities.

Use Part 2 to learn about the hazards that pose a risk to you. Include the pertinent information in your family disaster plan. Specific content on each hazard consists of the characteristics of that hazard, terms associated with the hazard, measures that can be taken beforehand to avoid or lessen the impact of these events, and what individuals need to do during and after the event to protect themselves.

When you complete Part 2, you will be able to:

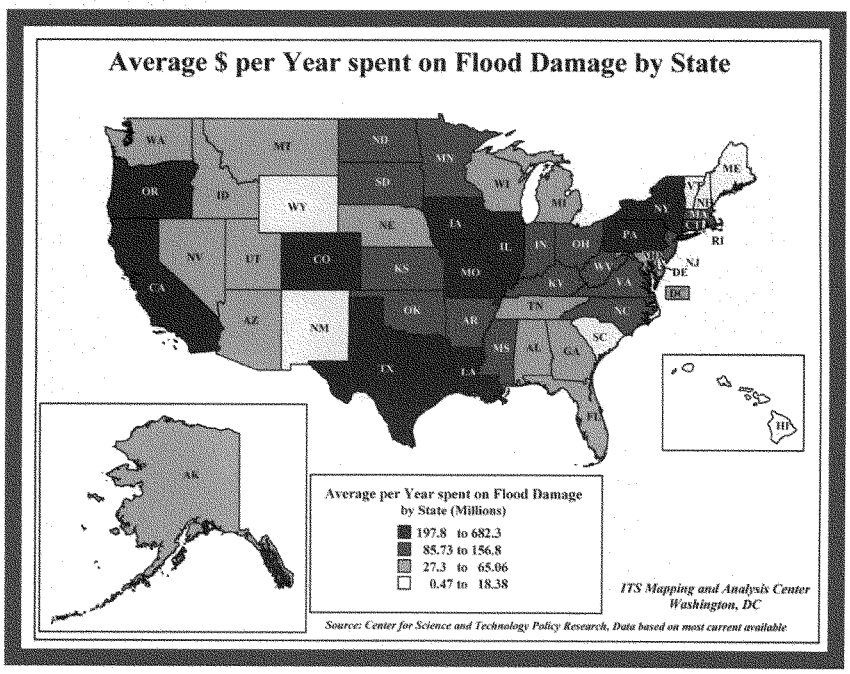
- Know important terms.
- Take protective measures for natural hazards.
- Identify resources for more information about natural hazards.

2.1 Floods

Floods are one of the most common hazards in the United States. Flood effects can be local, impacting a neighborhood or community, or very large, affecting entire river basins and multiple states.

However, all floods are not alike. Some floods develop slowly, sometimes over a period of days. But flash floods can develop quickly, sometimes in just a few minutes and without any visible signs of rain. Flash floods often have a dangerous wall of roaring water that carries rocks, mud, and other debris and can sweep away most things in its path. Overland flooding occurs outside a defined river or stream, such as when a levee is breached, but still can be destructive. Flooding can also occur when a dam breaks, producing effects similar to flash floods.

Be aware of flood hazards no matter where you live, but especially if you live in a low-lying area, near water or downstream from a dam. Even very small streams, gullies, creeks, culverts, dry streambeds, or low-lying ground that appear harmless in dry weather can flood. Every state is at risk from this hazard.



What Would You Do?

You and your family moved from a city neighborhood in San Francisco, CA, to a suburb of Phoenix, AZ. Since earthquakes were a threat in your area, you always kept some extra food, water, and other supplies on hand and maintained an earthquake insurance policy, just in case something happened. You think this kind of preparation is no longer necessary based on what your neighbors have told you. According to them, the biggest threat they face is lack of water caused by the very dry weather. You continue to see public service announcements from the federal government about flood insurance and the need to protect yourself from flood damage. Surely, there would be no need for flood insurance where you live with its bare hills, deep canyons, and dry land.

- Are you at risk for flooding, or is this more of a risk to people who live elsewhere?
  ☐ Yes ☐ No
- Is there a need to have a disaster plan and a disaster supplies kit?
  ☐ Yes ☐ No
- Should you consider purchasing flood insurance?
  ☐ Yes ☐ No

Answer key
1. Yes 2. Yes 3. Yes

Know the Terms

Familiarize yourself with these terms to help identify a flood hazard:

Flood Watch
Flooding is possible. Tune in to NOAA Weather Radio, commercial radio, or television for information.

Flash Flood Watch
Flash flooding is possible. Be prepared to move to higher ground; listen to NOAA Weather Radio, commercial radio, or television for information.

Flood Warning
Flooding is occurring or will occur soon; if advised to evacuate, do so immediately.

Flash Flood Warning
A flash flood is occurring; seek higher ground on foot immediately.

Take Protective Measures

Before a Flood

To prepare for a flood, you should:

- Avoid building in a floodplain unless you elevate and reinforce your home.
- Elevate the furnace, water heater, and electric panel if susceptible to flooding.
- Install "check valves" in sewer traps to prevent flood water from backing up into the drains of your home.
- Construct barriers (levees, beams, floodwalls) to stop floodwater from entering the building.
- Seal walls in basements with waterproofing compounds to avoid seepage.

During a Flood

If a flood is likely in your area, you should:

- Listen to the radio or television for information.
- Be aware that flash flooding can occur. If there is any possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move.
- Be aware of streams, drainage channels, canyons, and other areas known to flood suddenly. Flash floods can occur in these areas with or without such typical warnings as rain clouds or heavy rain.

If you must prepare to evacuate, you should do the following:

- Secure your home. If you have time, bring in outdoor furniture. Move essential items to an upper floor.
- Turn off utilities at the main switches or valves if instructed to do so. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.

Review
See Section 1.1: Getting Informed

If you have to leave your home, remember these evacuation tips:

- **Do not walk through moving water.** Six inches of moving water can make you fall. If you have to walk in water, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
- **Do not drive into flooded areas.** If floodwaters rise around your car, abandon the car and move to higher ground if you can do so safely. You and the vehicle can be quickly swept away.

Driving: Flood Facts

The following are important points to remember when driving in flood conditions:

- Six inches of water will reach the bottom of most passenger cars causing loss of control and possible stalling.
- A foot of water will float many vehicles.
- Two feet of rushing water can carry away most vehicles including sport utility vehicles (SUV's) and pick-ups.

After a Flood

The following are guidelines for the period following a flood:

- Listen for news reports to learn whether the community's water supply is safe to drink.
- Avoid floodwaters; water may be contaminated by oil, gasoline, or raw sewage. Water may also be electrically charged from underground or downed power lines.
- Avoid moving water.
- Be aware of areas where floodwaters have receded. Roads may have weakened and could collapse under the weight of a car.
- Stay away from downed power lines, and report them to the power company.
- Return home only when authorities indicate it is safe.
- Stay out of any building if it is surrounded by floodwaters.
- Use extreme caution when entering buildings; there may be hidden damage, particularly in foundations.
- Service damaged septic tanks, cesspools, pits, and leaching systems as soon as possible. Damaged sewage systems are serious health hazards.
- Clean and disinfect everything that got wet. Mud left from floodwater can contain sewage and chemicals.

Additional Information

Flood Insurance

Consider the following facts:

- Flood losses are **not covered** under homeowners' insurance policies.
- FEMA manages the National Flood Insurance Program, which makes federally-backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.
- Flood insurance is available in most communities through insurance agents.
- There is a 30-day waiting period before flood insurance goes into effect, so don't delay.
- Flood insurance is available whether the building is in or out of the identified flood-prone area.

Knowledge Check

Decide whether the following statements are true or false. Check the appropriate column. When you have finished, check your answers using the answer key below.

T	F	Statement
❑	❑	1. Flood emergencies occur in only 12 states.
❑	❑	2. A "flood watch" announcement on the radio indicates that flooding is possible.
❑	❑	3. Flash floods may occur with little warning.
❑	❑	4. Flood risk varies from one region to another.
❑	❑	5. National flood insurance is available only for buildings within an identified flood-prone area.
❑	❑	6. It is safe to walk through floodwater if you can see the ground under it.
❑	❑	7. It takes at least 3 feet of floodwater to make a motorized vehicle float.
❑	❑	8. After flood waters recede from a roadway, the road could still be dangerous.
❑	❑	9. To prepare for a flood emergency, you should have a NOAA Weather Radio as well as a commercial radio.

Answer key
1. False 2. True 3. True 4. True 5. False 6. False 7. False 8. True 9. True

For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

FEMA Publications

- *After a Flood: The First Steps.* L-198. Information for homeowners on preparedness, safety, and recovery from a flood.
- *Homeowner's Guide to Retrofitting: Six Ways to Protect Your House from Flooding.* L-235. A brochure about obtaining information about how to protect your home from flooding.
- *Homeowner's Guide to Retrofitting: Six Ways to Protect Your House from Flooding.* FEMA-312. A detailed manual on how to protect your home from flooding.
- *About the Flood: Elevating Your Floodprone House.* FEMA-347. This publication is intended for builders, code officials and homeowners.
- *Protecting Building Utilities From Flood Damage.* FEMA-348. This publication is intended for developers, architects, engineers, builders, code officials and homeowners.

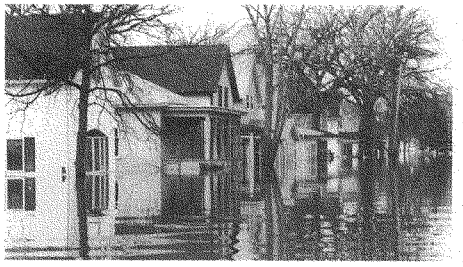
Other Publications

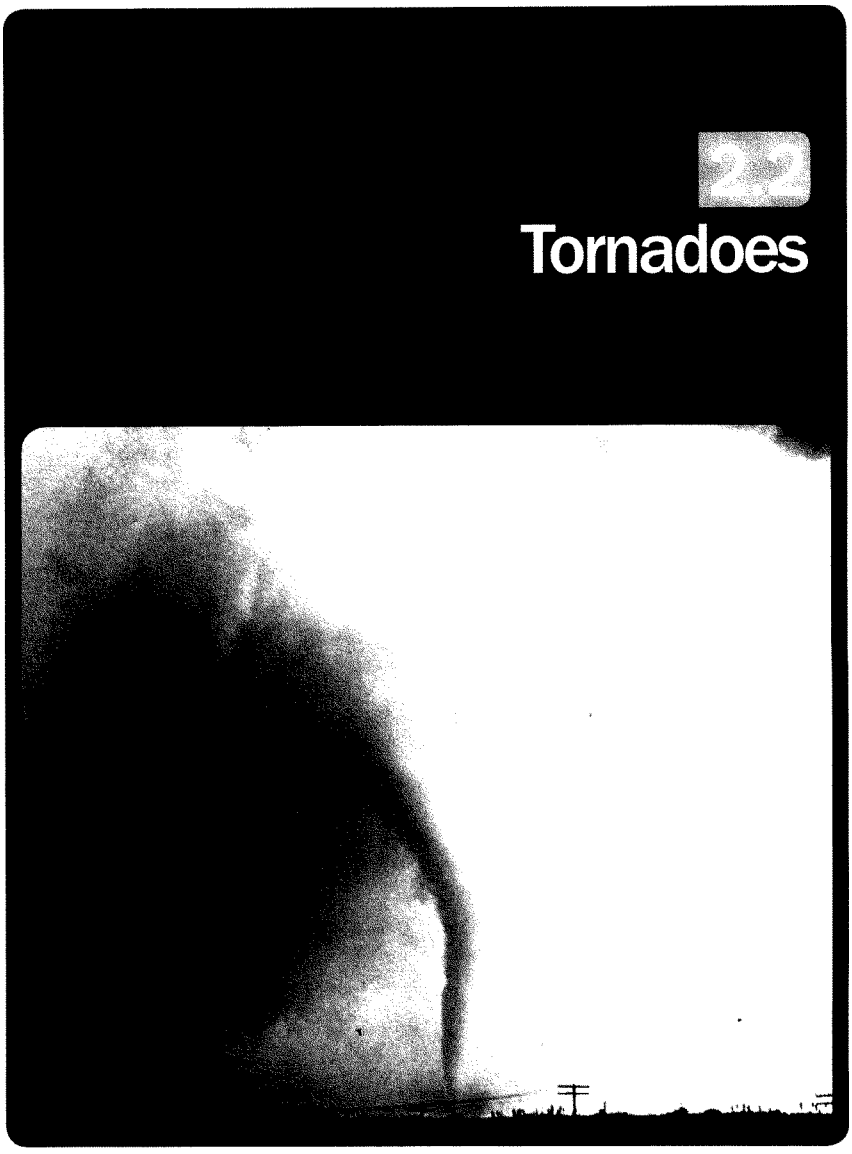
American Red Cross

- *Repairing Your Flooded Home.* sixty-page booklet about how to perform simple home repairs after flooding, including cleaning, sanitation, and determining which professionals to involve for various needed services. Local Red Cross chapters can order in packages of 10 as stock number A4477 for a nominal fee. Also available online at www.redcross.org/services/disaster/0,1082,0_570_,00.html

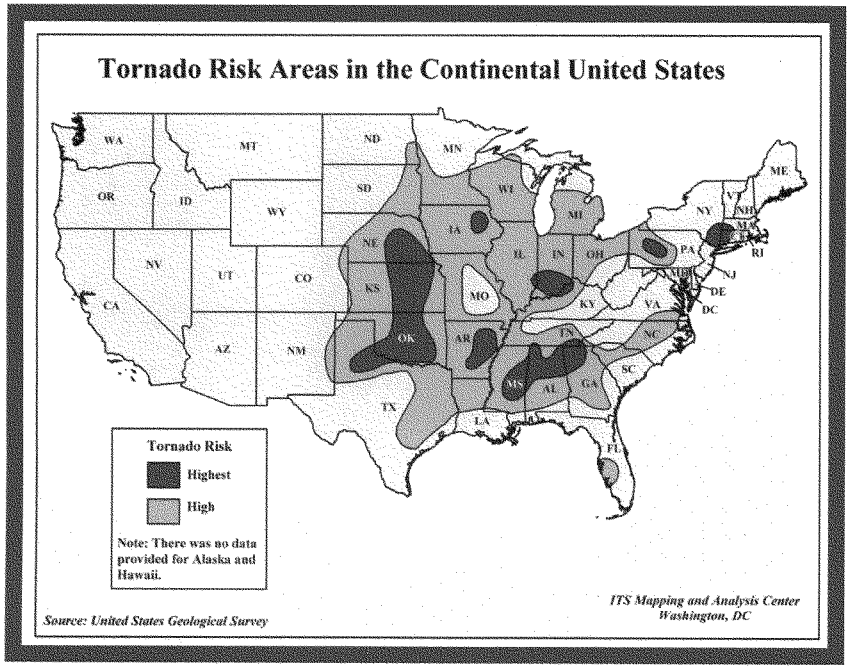
National Weather Service

- *Hurricane Flooding: A Deadly Inland Danger.* 20052. Brochure describing the impact of hurricane flooding and precautions to take. Available online at www.nws.noaa.gov/om/brochures/InlandFlooding.pdf
- *The Hidden Danger: Low Water Crossing.* 96074E. Brochure describing the hazards of driving your vehicle in flood conditions. Available online at www.nws.noaa.gov/om/brochures/TheHiddenDangerEnglish.pdf




2.2
Tornadoes

Tornadoes are nature's most violent storms. Spawned from powerful thunderstorms, tornadoes can cause fatalities and devastate a neighborhood in seconds. A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm to the ground with whirling winds that can reach 300 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long. Every state is at some risk from this hazard.



Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others. Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible.

Before a tornado hits, the wind may die down and the air may become very still. A cloud of debris can mark the location of a tornado even if a funnel is not visible. Tornadoes generally occur near the trailing edge of a thunderstorm. It is not uncommon to see clear, sunlit skies behind a tornado.

The following are facts about tornadoes:

- They may strike quickly, with little or no warning.
- They may appear nearly transparent until dust and debris are picked up or a cloud forms in the funnel.
- The average tornado moves Southwest to Northeast, but tornadoes have been known to move in any direction.
- The average forward speed of a tornado is 30 MPH, but may vary from stationary to 70 MPH.
- Tornadoes can accompany tropical storms and hurricanes as they move onto land.
- Waterspouts are tornadoes that form over water.
- Tornadoes are most frequently reported east of the Rocky Mountains during spring and summer months.
- Peak tornado season in the southern states is March through May; in the northern states, it is late spring through early summer.
- Tornadoes are most likely to occur between 3 p.m. and 9 p.m., but can occur at any time.

Know the Terms

Familiarize yourself with these terms to help identify a tornado hazard:

Tornado Watch
Tornadoes are possible. Remain alert for approaching storms. Watch the sky and stay tuned to NOAA Weather Radio, commercial radio, or television for information.

Tornado Warning
A tornado has been sighted or indicated by weather radar. Take shelter immediately.

Take Protective Measures

Before a Tornado

Be alert to changing weather conditions.

- Listen to NOAA Weather Radio or to commercial radio or television newscasts for the latest information.
- Look for approaching storms.

- Look for the following danger signs:
  - Dark, often greenish sky
  - Large hail
  - A large, dark, low-lying cloud (particularly if rotating)
  - Loud roar, similar to a freight train.

If you see approaching storms or any of the danger signs, be prepared to take shelter immediately.

During a Tornado

If you are under a tornado WARNING, seek shelter immediately!

If you are in:	Then:
A structure (e.g. residence, small building, school, nursing home, hospital, factory, shopping center, high-rise building)	Go to a pre-designated shelter area such as a safe room, basement, storm cellar, or the lowest building level. If there is no basement, go to the center of an interior room on the lowest level (closet, interior hallway) away from corners, windows, doors, and outside walls. Put as many walls as possible between you and the outside. Get under a sturdy table and use your arms to protect your head and neck. Do not open windows.
A vehicle, trailer, or mobile home	Get out immediately and go to the lowest floor of a sturdy, nearby building or a storm shelter. Mobile homes, even if tied down, offer little protection from tornadoes.
The outside with no shelter	• Lie flat in a nearby ditch or depression and cover your head with your hands. Be aware of the potential for flooding. • Do not get under an overpass or bridge. You are safer in a low, flat location. • Never try to outrun a tornado in urban or congested areas in a car or truck. Instead, leave the vehicle immediately for safe shelter. • Watch out for flying debris. Flying debris from tornadoes causes most fatalities and injuries.

Preparing a Safe Room

Extreme windstorms in many parts of the country pose a serious threat to buildings and their occupants. Your residence may be built "to code," but that does not mean it can withstand winds from extreme events such as tornadoes and major hurricanes. The purpose of a safe room or a wind shelter is to provide a space where you and your family can seek refuge that provides a high level of protection. You can build a safe room in one of several places in your home:

- Your basement.
- Atop a concrete slab-on-grade foundation or garage floor.
- An interior room on the first floor.

Safe rooms built below ground level provide the greatest protection, but a safe room built in a first-floor interior room also can provide the necessary protection. Below-ground safe rooms must be designed to avoid accumulating water during the heavy rains that often accompany severe windstorms.

To protect its occupants, a safe room must be built to withstand high winds and flying debris, even if the rest of the residence is severely damaged or destroyed. Consider the following when building a safe room:

- The safe room must be adequately anchored to resist overturning and uplift.
- The walls, ceiling, and door of the shelter must withstand wind pressure and resist penetration by windborne objects and falling debris.
- The connections between all parts of the safe room must be strong enough to resist the wind.
- Sections of either interior or exterior residence walls that are used as walls of the safe room, must be separated from the structure of the residence so that damage to the residence will not cause damage to the safe room.

Additional information about Safe Rooms avaliable from FEMA

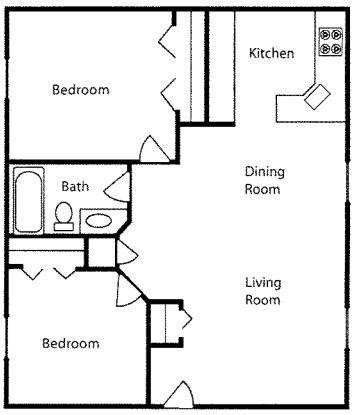
Taking Shelter from the Storm: Building a Safe Room Inside Your House. L-233. Brochure providing details about obtaining information about how to build a wind-safe room to withstand tornado, hurricane, and other high winds

Taking Shelter from the Storm: Building a Safe Room Inside Your House. FEMA-320. Manual with detailed information about how to build a wind-safe room to withstand tornado, hurricane, and other high winds

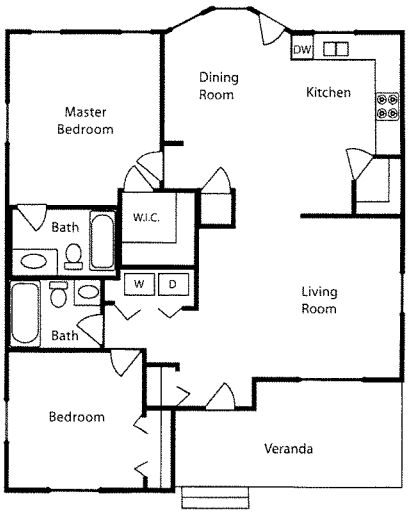
Locate the Safest Place

On the following home layout diagrams, locate the safest place to seek shelter should you not be able to evacuate.

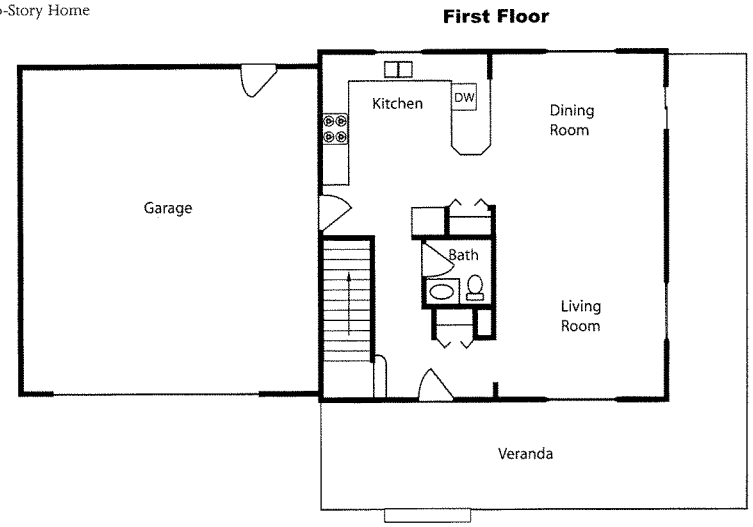
Apartment



One-Story Home



Two-Story Home



Answer key

Apartment: bathroom, One-Story Home: WIC (walk in Closet), Two-Story Home: First floor bathroom

After a Tornado

Follow the instructions for recovering from a disaster in Part 5.

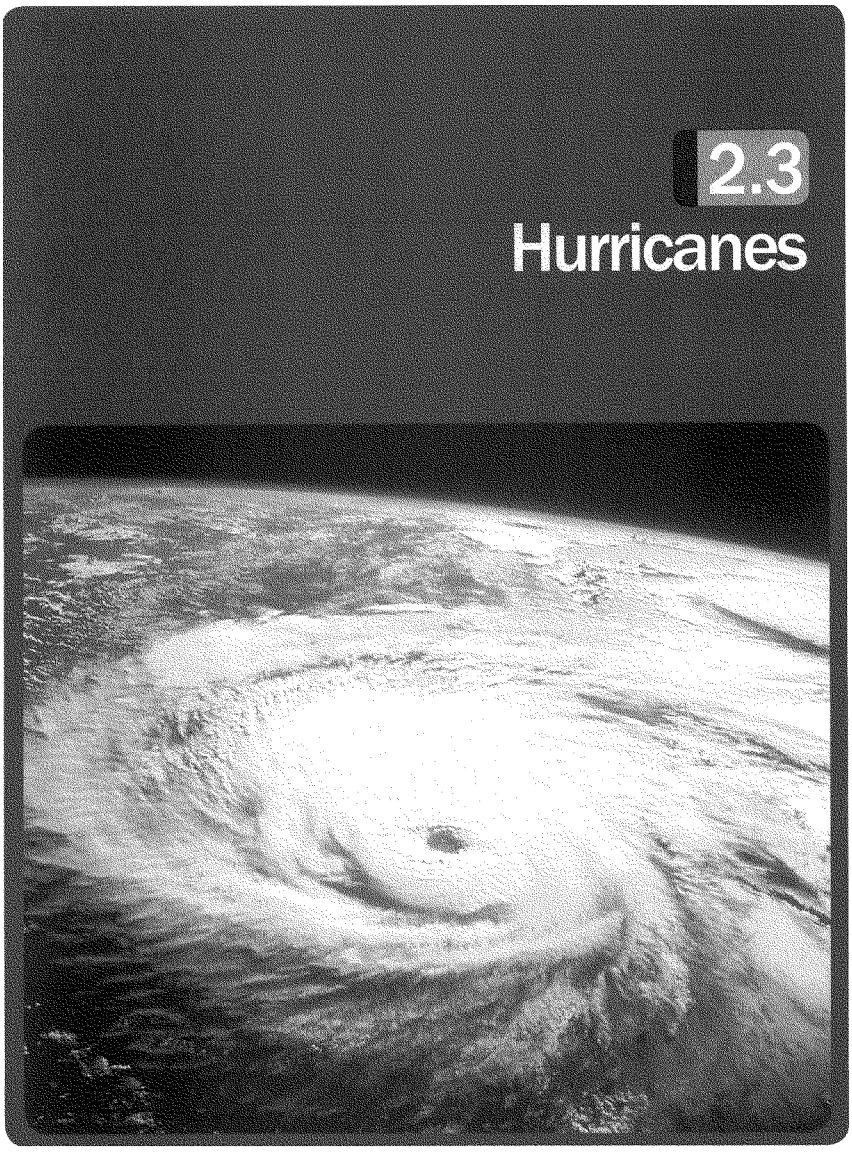
For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

FEMA Publications

Tornado Fact Sheet. L-148. Provides safety tips for before, during, and after a tornado

Tornado Protection—Selecting Refuge Areas in Buildings. FEMA 431. Intended primarily to help building administrators, architects, and engineers select the best available refuge areas in existing schools


2.3
Hurricanes

A hurricane is a type of tropical cyclone, the generic term for a low pressure system that generally forms in the tropics. A typical cyclone is accompanied by thunderstorms, and in the Northern Hemisphere, a counterclockwise circulation of winds near the earth's surface.

All Atlantic and Gulf of Mexico coastal areas are subject to hurricanes or tropical storms. Parts of the Southwest United States and the Pacific Coast experience heavy rains and floods each year from hurricanes spawned off Mexico. The Atlantic hurricane season lasts from June to November, with the peak season from mid-August to late October.

Hurricanes can cause catastrophic damage to coastlines and several hundred miles inland. Winds can exceed 155 miles per hour. Hurricanes and tropical storms can also spawn tornadoes and microbursts, create storm surges along the coast, and cause extensive damage from heavy rainfall.

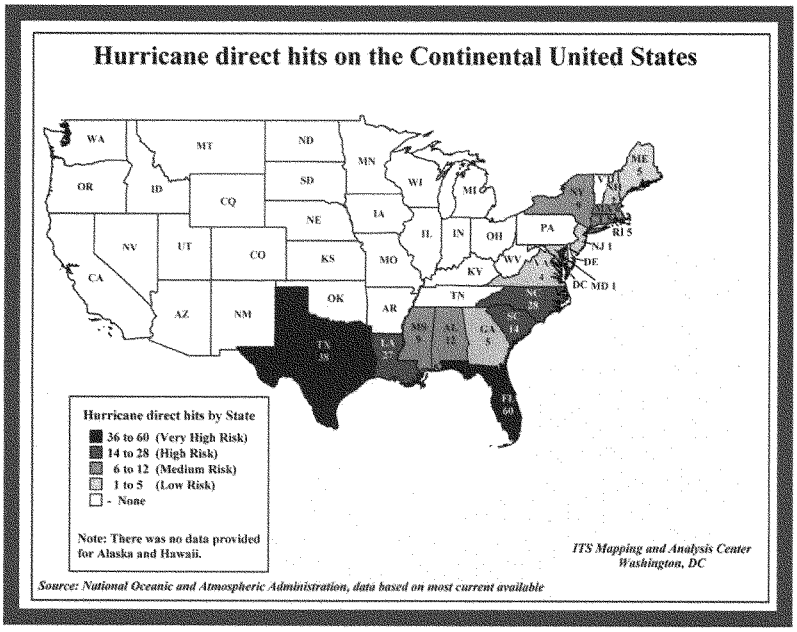
Hurricanes are classified into five categories based on their wind speed, central pressure, and damage potential (see chart). Category Three and higher hurricanes are considered major hurricanes, though Categories One and Two are still extremely dangerous and warrant your full attention.

Saffir-Simpson Hurricane Scale

Scale Number (Category)	Sustained Winds (MPH)	Damage	Storm Surge
1	74-95	**Minimal:** Unanchored mobile homes, vegetation, and signs	4-5 feet
2	96-110	**Moderate:** All mobile homes, roofs, small craft; flooding	6-8 feet
3	111-130	**Extensive:** Small buildings; low-lying roads cut off	9-12 feet
4	131-155	**Extreme:** Roofs destroyed, trees down, roads cut off, mobile homes destroyed, beach homes flooded	13-18 feet
5	More than 155	**Catastrophic:** Most buildings destroyed, vegetation destroyed, major roads cut off, homes flooded	Greater than 18 feet

Hurricanes can produce widespread torrential rains. Floods are the deadly and destructive result. Slow moving storms and tropical storms moving into mountainous regions tend to produce especially heavy rain. Excessive rain can trigger landslides or mud slides, especially in mountainous regions. Flash flooding can occur due to intense rainfall. Flooding on rivers and streams may persist for several days or more after the storm.

Between 1970 and 1999, more people lost their lives from freshwater inland flooding associated with land falling tropical cyclones than from any other weather hazard related to tropical cyclones.



Naming the Hurricane

Since 1953, Atlantic tropical storms have been named from lists originated by the National Hurricane Center and now maintained and updated by an international committee of the World Meteorological Organization. The lists featured only women's names until 1979. After that, men's and women's names were alternated. Six lists are used in rotation. Thus, the 2001 lists will be used again in 2007.

The only time there is a change in the list is if a storm is so deadly or costly that the continued use of the name would be inappropriate for reasons of sensitivity. When this occurs, the name is stricken from the list and another name is selected to replace it.

Sometimes names are changed. Lorenzo replaced Luis and Michelle replaced Marilyn. The complete lists can be found at www.nhc.noaa.gov under "Storm Names."

Know the Terms

Familiarize yourself with these terms to help identify a hurricane hazard:

Tropical Depression
An organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds of 38 MPH (33 knots) or less. Sustained winds are defined as one-minute average wind measured at about 33 ft (10 meters) above the surface.

Tropical Storm
An organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 MPH (34-63 knots).

Hurricane
An intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 MPH (64 knots) or higher.

Storm Surge
A dome of water pushed onshore by hurricane and tropical storm winds. Storm surges can reach 25 feet high and be 50-100 miles wide.

Storm Tide
A combination of storm surge and the normal tide (i.e., a 15-foot storm surge combined with a 2-foot normal high tide over the mean sea level creates a 17-foot storm tide).

Hurricane/Tropical Storm Watch
Hurricane/tropical storm conditions are possible in the specified area, usually within 36 hours. Tune in to NOAA Weather Radio, commercial radio, or television for information.

Hurricane/Tropical Storm Warning
Hurricane/tropical storm conditions are expected in the specified area, usually within 24 hours.

Short Term Watches and Warnings
These warnings provide detailed information about specific hurricane threats, such as flash floods and tornadoes.

Take Protective Measures

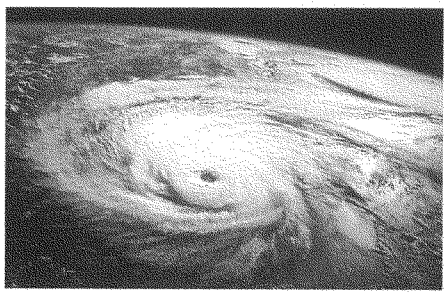
Before a Hurricane

To prepare for a hurricane, you should take the following measures:

- Make plans to secure your property. Permanent storm shutters offer the best protection for windows. A second option is to board up windows with 5/8" marine plywood, cut to fit and ready to install. Tape does not prevent windows from breaking.
- Install straps or additional clips to securely fasten your roof to the frame structure. This will reduce roof damage.
- Be sure trees and shrubs around your home are well trimmed.
- Clear loose and clogged rain gutters and downspouts.
- Determine how and where to secure your boat.
- Consider building a safe room.

Review

For more information on safe rooms See Section 2.2: Tornadoes



During a Hurricane

If a hurricane is likely in your area, you should:

- Listen to the radio or TV for information.
- Secure your home, close storm shutters, and secure outdoor objects or bring them indoors.
- Turn off utilities if instructed to do so. Otherwise, turn the refrigerator thermostat to its coldest setting and keep its doors closed.
- Turn off propane tanks.
- Avoid using the phone, except for serious emergencies.
- Moor your boat if time permits.
- Ensure a supply of water for sanitary purposes such as cleaning and flushing toilets. Fill the bathtub and other large containers with water.

You should evacuate under the following conditions:

- If you are directed by local authorities to do so. Be sure to follow their instructions.
- If you live in a mobile home or temporary structure—such shelters are particularly hazardous during hurricanes no matter how well fastened to the ground.
- If you live in a high-rise building—hurricane winds are stronger at higher elevations.
- If you live on the coast, on a floodplain, near a river, or on an inland waterway.
- If you feel you are in danger.

If you are unable to evacuate, go to your wind-safe room. If you do not have one, follow these guidelines:

- Stay indoors during the hurricane and away from windows and glass doors.
- Close all interior doors—secure and brace external doors.
- Keep curtains and blinds closed. Do not be fooled if there is a lull; it could be the eye of the storm—winds will pick up again.
- Take refuge in a small interior room, closet, or hallway on the lowest level.
- Lie on the floor under a table or another sturdy object.

Review

Guidelines for sheltering
See Section 1.4: Shelter

After a Hurricane

Follow the instructions for recovering from a disaster in Part 5.

Knowledge Check

You Make the Call

Read the following and respond to the question below. See the answer key below to check your answer.

Your neighbor said that in the event a hurricane threatens, the household would get ready by closing the windows and doors on the storm side of the house and opening the ones on the side away from the wind. They also will tape the windows to prevent damage to the glass.

Is this a good idea?

Answer Key

No! All of the doors and windows should be closed (and shuttered) throughout the duration of the hurricane. The winds in a hurricane are highly turbulent and any open window or door can be an open target for flying debris.

As for the tape, it is a waste of effort, time, and tape. It offers no strength to the glass and no protection against flying debris.

For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

FEMA Publications

Against the Wind: Protecting Your Home from Hurricane and Wind Damage. FEMA-247. A guide to hurricane preparedness. Available online at www.fema.gov/txt/hazards/hurricanes/survivingthestormhurricane.txt

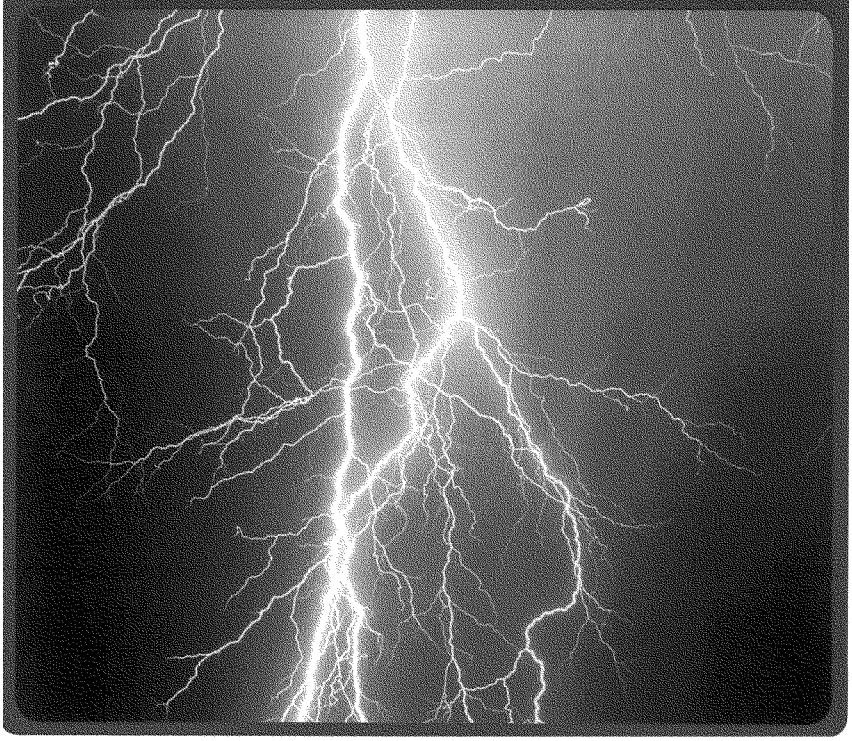
Community Hurricane Preparedness. IS-324. CD-ROM or Web-based training course for federal, state, and local emergency managers. Web-based version available online at http://meted.ucar.edu/hurrican/chp/index.htm

Safety Tips for Hurricanes. L 105. Publication for teachers and parents for presentation to children. To order, call 1(800)480-2520.

Other Publications

Protect Your Home against Hurricane Damage, Institute for Business and Home Safety. 110 William Street, New York, NY 20038

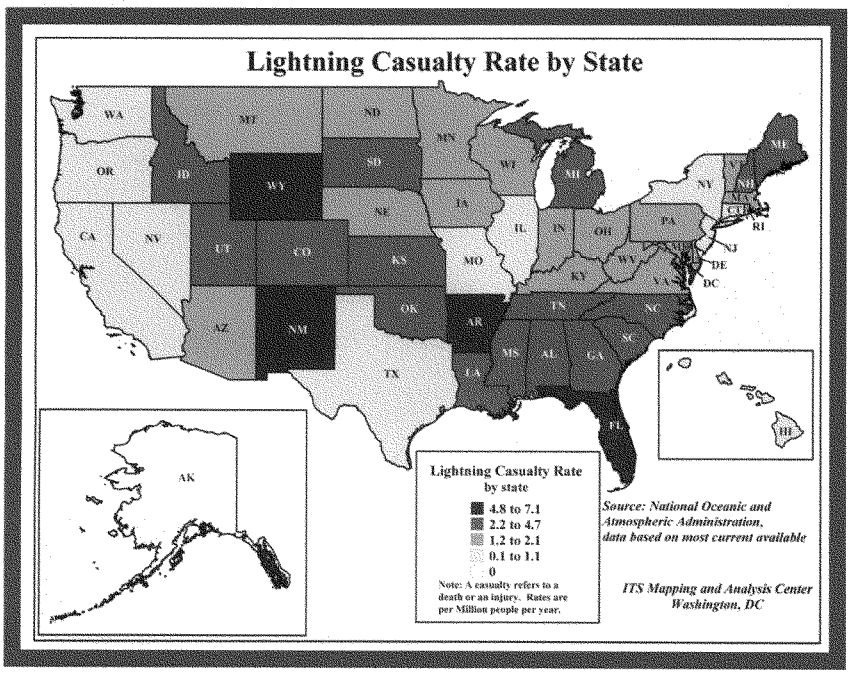
2.4 Thunderstorms and Lightning



All thunderstorms are dangerous. Every thunderstorm produces lightning. In the United States, an average of 300 people are injured and 80 people are killed each year by lightning. Although most lightning victims survive, people struck by lightning often report a variety of long-term, debilitating symptoms.

Other associated dangers of thunderstorms include tornadoes, strong winds, hail, and flash flooding. Flash flooding is responsible for more fatalities—more than 140 annually—than any other thunderstorm-associated hazard.

Dry thunderstorms that do not produce rain that reaches the ground are most prevalent in the western United States. Falling raindrops evaporate, but lightning can still reach the ground and can start wildfires.



The following are facts about thunderstorms:

- They may occur singly, in clusters, or in lines.
- Some of the most severe occur when a single thunderstorm affects one location for an extended time.
- Thunderstorms typically produce heavy rain for a brief period, anywhere from 30 minutes to an hour.
- Warm, humid conditions are highly favorable for thunderstorm development.
- About 10 percent of thunderstorms are classified as severe—one that produces hail at least three-quarters of an inch in diameter, has winds of 58 miles per hour or higher, or produces a tornado.

The following are facts about lightning:

- Lightning's unpredictability increases the risk to individuals and property.
- Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.
- "Heat lightning" is actually lightning from a thunderstorm too far away for thunder to be heard. However, the storm may be moving in your direction!
- Most lightning deaths and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.
- Your chances of being struck by lightning are estimated to be 1 in 600,000, but could be reduced even further by following safety precautions.
- Lightning strike victims carry no electrical charge and should be attended to immediately.

Know the Terms

Familiarize yourself with these terms to help identify a thunderstorm hazard:

Severe Thunderstorm Watch
Tells you when and where severe thunderstorms are likely to occur. Watch the sky and stay tuned to NOAA Weather Radio, commercial radio, or television for information.

Severe Thunderstorm Warning
Issued when severe weather has been reported by spotters or indicated by radar. Warnings indicate imminent danger to life and property to those in the path of the storm.

Take Protective Measures

Before Thunderstorms and Lightning

To prepare for a thunderstorm, you should do the following:

- Remove dead or rotting trees and branches that could fall and cause injury or damage during a severe thunderstorm.
- Remember the 30/30 lightning safety rule: Go indoors if, after seeing lightning, you cannot count to 30 before hearing thunder. Stay indoors for 30 minutes after hearing the last clap of thunder.

Thunderstorms

The following are guidelines for what you should do if a thunderstorm is likely in your area:

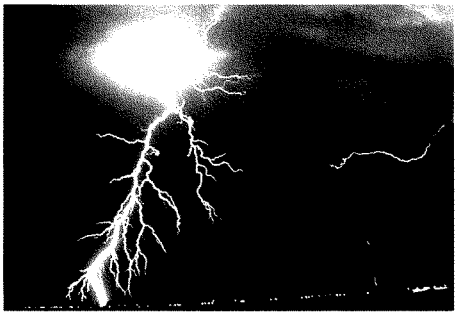
- Postpone outdoor activities.
- Get inside a home, building, or hard top automobile (not a convertible). Although you may be injured if lightning strikes your car, you are much safer inside a vehicle than outside.
- Remember, rubber-soled shoes and rubber tires provide NO protection from lightning. However, the steel frame of a hard-topped vehicle provides increased protection if you are not touching metal.
- Secure outdoor objects that could blow away or cause damage.
- Shutter windows and secure outside doors. If shutters are not available, close window blinds, shades, or curtains.
- Avoid showering or bathing. Plumbing and bathroom fixtures can conduct electricity.
- Use a corded telephone only for emergencies. Cordless and cellular telephones are safe to use.
- Unplug appliances and other electrical items such as computers and turn off air conditioners. Power surges from lightning can cause serious damage.
- Use your battery-operated NOAA Weather Radio for updates from local officials.

Avoid the following:

- Natural lightning rods such as a tall, isolated tree in an open area
- Hilltops, open fields, the beach, or a boat on the water
- Isolated sheds or other small structures in open areas
- Anything metal—tractors, farm equipment, motorcycles, golf carts, golf clubs, and bicycles

During a Thunderstorm

If you are:	Then:
In a forest	Seek shelter in a low area under a thick growth of small trees.
In an open area	Go to a low place such as a ravine or valley. Be alert for flash floods.
On open water	Get to land and find shelter immediately.
Anywhere you feel your hair stand on end (which indicates that lightning is about to strike)	Squat low to the ground on the balls of your feet. Place your hands over your ears and your head between your knees. Make yourself the smallest target possible and minimize your contact with the ground. DO NOT lie flat on the ground.



After a Thunderstorm

Call 9-1-1 for medical assistance as soon as possible.

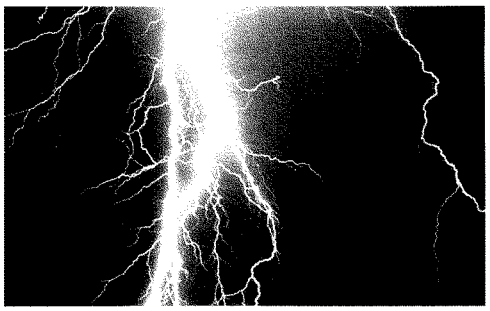
The following are things you should check when you attempt to give aid to a victim of lightning:

- **Breathing** - if breathing has stopped, begin mouth-to-mouth resuscitation.
- **Heartbeat** - if the heart has stopped, administer CPR.
- **Pulse** - if the victim has a pulse and is breathing, look for other possible injuries. Check for burns where the lightning entered and left the body. Also be alert for nervous system damage, broken bones, and loss of hearing and eyesight.

Knowledge Check

Decide whether the following statements are true or false. Check the appropriate column. When you have finished, verify your answers using the answer key below.

T	F	Statement
❑	❑	1. Every thunderstorm produces lightning.
❑	❑	2. Never touch a person struck by lightning.
❑	❑	3. Dry, cold conditions favor development of a thunderstorm.
❑	❑	4. If you can count to 25 after seeing lightning and before hearing thunder, it is safe to stay outdoors.
❑	❑	5. It is safe to use a cordless telephone during a thunderstorm.
❑	❑	6. Rubber-soled shoes and rubber tires provide protection from lightning.



For More Information

If you require more information about any of these topics, the following resource may be helpful.

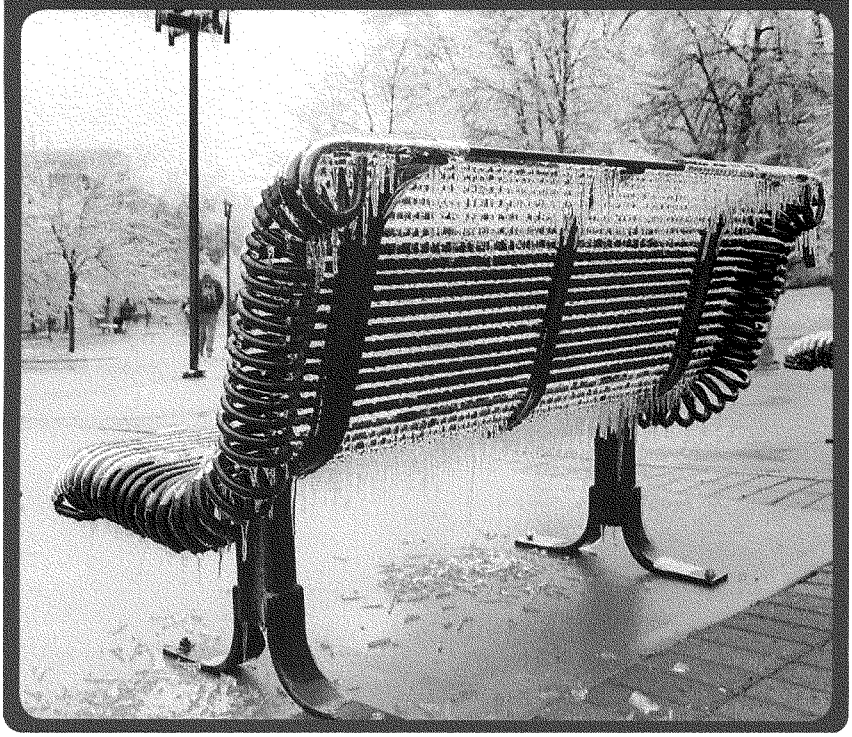
Publications

National Weather Service

Facts about Lightning. 200252. Two-page factsheet for boaters. Available online at www.nws.noaa.gov/om/wcm/lightning/resources/LightningFactsSheet.pdf

Answer key:
1. True 2. False 3. False 4. False 5. True 6. False

2.5 Winter Storms and Extreme Cold



Heavy snowfall and extreme cold can immobilize an entire region. Even areas that normally experience mild winters can be hit with a major snowstorm or extreme cold. Winter storms can result in flooding, storm surge, closed highways, blocked roads, downed power lines and hypothermia.

Know the Terms

Familiarize yourself with these terms to help identify a winter storm hazard:

Freezing Rain
Rain that freezes when it hits the ground, creating a coating of ice on roads, walkways, trees, and power lines.

Sleet
Rain that turns to ice pellets before reaching the ground. Sleet also causes moisture on roads to freeze and become slippery.

Winter Storm Watch
A winter storm is possible in your area. Tune in to NOAA Weather Radio, commercial radio, or television for more information.

Winter Storm Warning
A winter storm is occurring or will soon occur in your area.

Blizzard Warning
Sustained winds or frequent gusts to 35 miles per hour or greater and considerable amounts of falling or blowing snow (reducing visibility to less than a quarter mile) are expected to prevail for a period of three hours or longer.

Frost/Freeze Warning
Below freezing temperatures are expected.

Take Protective Measures

Before Winter Storms and Extreme Cold

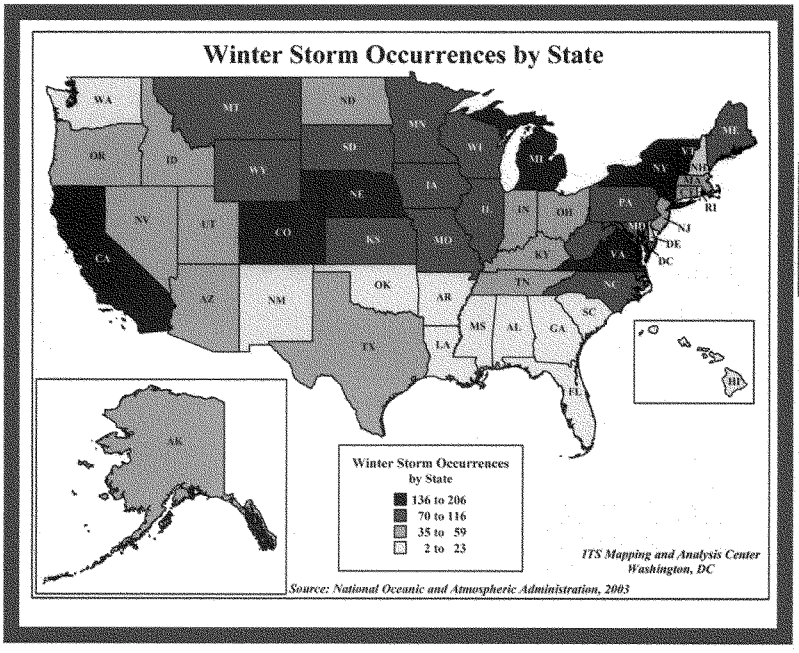
Include the following in your disaster supplies kit:

- Rock salt to melt ice on walkways
- Sand to improve traction
- Snow shovels and other snow removal equipment.

Prepare for possible isolation in your home by having sufficient heating fuel; regular fuel sources may be cut off. For example, store a good supply of dry, seasoned wood for your fireplace or wood-burning stove.

Review

See Section 1.3: Assemble a Disaster Supplies Kit



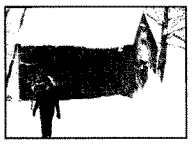
Winterize your home to extend the life of your fuel supply by insulating walls and attics, caulking and weather-stripping doors and windows, and installing storm windows or covering windows with plastic.

To winterize your car, attend to the following:

- Battery and ignition system should be in top condition and battery terminals clean.
- Ensure antifreeze levels are sufficient to avoid freezing.
- Ensure the heater and defroster work properly.
- Check and repair windshield wiper equipment; ensure proper washer fluid level.
- Ensure the thermostat works properly.
- Check lights and flashing hazard lights for serviceability.
- Check for leaks and crimped pipes in the exhaust system; repair or replace as necessary. Carbon monoxide is deadly and usually gives no warning.

- Check breaks for wear and fluid levels.
- Check oil for level and weight. Heavier oils congeal more at low temperatures and do not lubricate as well.
- Consider snow tires, snow tires with studs, or chains.
- Replace fuel and air filters. Keep water out of the system by using additives and maintaining a full tank of gas.

Dress for the Weather



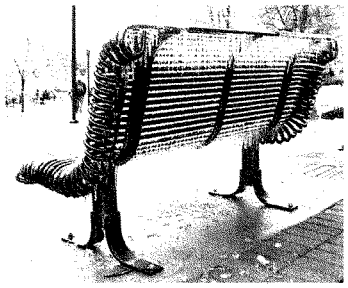
- Wear several layers of loose fitting, lightweight, warm clothing rather than one layer of heavy clothing. The outer garments should be tightly woven and water repellent.
- Wear mittens, which are warmer than gloves.
- Wear a hat.
- Cover your mouth with a scarf to protect your lungs.

During a Winter Storm

The following are guidelines for what you should do during a winter storm or under conditions of extreme cold:

- Listen to your radio, television, or NOAA Weather Radio for weather reports and emergency information.
- Eat regularly and drink ample fluids, but avoid caffeine and alcohol.
- Avoid overexertion when shoveling snow. Overexertion can bring on a heart attack—a major cause of death in the winter. If you must shovel snow, stretch before going outside.
- Watch for signs of frostbite. These include loss of feeling and white or pale appearance in extremities such as fingers, toes, ear lobes, and the tip of the nose. If symptoms are detected, get medical help immediately.
- Watch for signs of hypothermia. These include uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion. If symptoms of hypothermia are detected, get the victim to a warm location, remove wet clothing, warm the center of the body first, and give warm, non-alcoholic beverages if the victim is conscious. Get medical help as soon as possible.
- Conserve fuel, if necessary, by keeping your residence cooler than normal. Temporarily close off heat to some rooms.
- Maintain ventilation when using kerosene heaters to avoid build-up of toxic fumes. Refuel kerosene heaters outside and keep them at least three feet from flammable objects.

- Drive only if it is absolutely necessary. If you must drive, consider the following:
  - Travel in the day, don't travel alone, and keep others informed of your schedule
  - Stay on main roads; avoid back road shortcuts



If a blizzard traps you in the car, keep these guidelines in mind:

- Pull off the highway. Turn on hazard lights and hang a distress flag from the radio antenna or window.
- Remain in your vehicle where rescuers are most likely to find you. Do not set out on foot unless you can see a building close by where you know you can take shelter. Be careful; distances are distorted by blowing snow. A building may seem close, but be too far to walk to in deep snow.
- Run the engine and heater about 10 minutes each hour to keep warm. When the engine is running, open an upwind window slightly for ventilation. This will protect you from possible carbon monoxide poisoning. Periodically clear snow from the exhaust pipe.
- Exercise to maintain body heat, but avoid overexertion. In extreme cold, use road maps, seat covers, and floor mats for insulation. Huddle with passengers and use your coat for a blanket.
- Take turns sleeping. One person should be awake at all times to look for rescue crews.
- Drink fluids to avoid dehydration.
- Be careful not to waste battery power. Balance electrical energy needs—the use of lights, heat, and radio—with supply.
- Turn on the inside light at night so work crews or rescuers can see you.
- If stranded in a remote area, stomp large block letters in an open area spelling out HELP or SOS and line with rocks or tree limbs to attract the attention of rescue personnel who may be surveying the area by airplane.
- Leave the car and proceed on foot—if necessary—once the blizzard passes.

After a Winter Storm

Follow the instructions for recovering from a disaster in Part 5.

For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

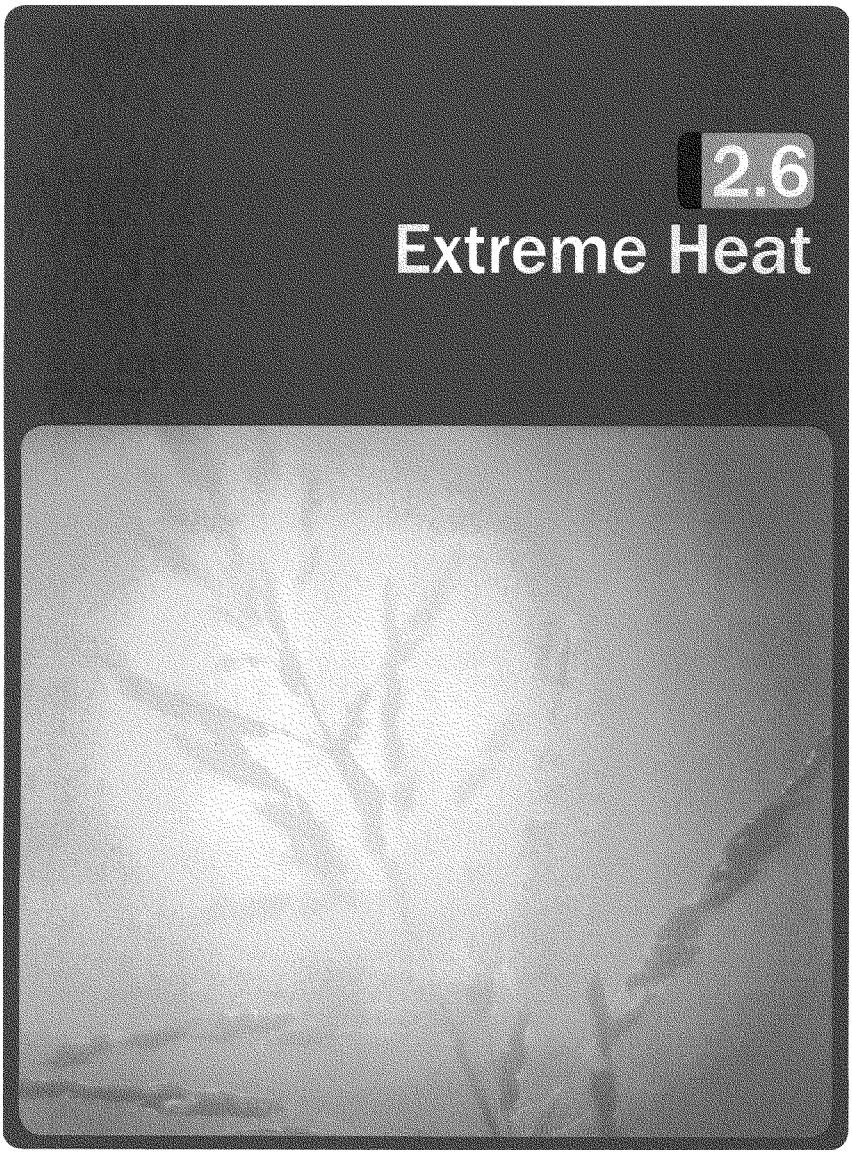
Publications

National Weather Service

Winter Storms...The Deceptive Killers. Brochure packed with useful information including winter storm facts, how to detect frostbite and hypothermia, what to do in a winter storm, and how to be prepared. Available online at: www.nws.noaa.gov/om/brochures/wntrstm.htm

Centers for Disease Control and Prevention

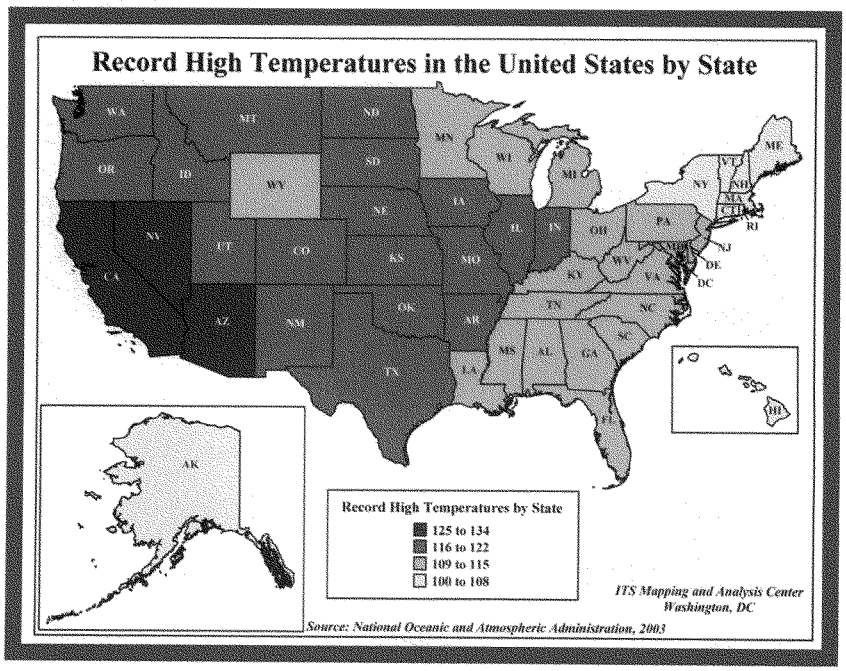
Extreme Cold: A Prevention Guide to Promote Your Personal Health and Safety. An extensive document providing information about planning ahead for cold weather, safety both indoors and outdoors in cold weather, and cold weather health conditions. Available online at: www.phppo.cdc.gov


2.6
Extreme Heat

Heat kills by pushing the human body beyond its limits. In extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature.

Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.

Conditions that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality. Consequently, people living in urban areas may be at greater risk from the effects of a prolonged heat wave than those living in rural areas. Also, asphalt and concrete store heat longer and gradually release heat at night, which can produce higher nighttime temperatures known as the "urban heat island effect."



Know the Terms

Familiarize yourself with these terms to help identify an extreme heat hazard:

Heat Wave
Prolonged period of excessive heat, often combined with excessive humidity.

Heat Index
A number in degrees Fahrenheit (F) that tells how hot it feels when relative humidity is added to the air temperature. Exposure to full sunshine can increase the heat index by 15 degrees.

Heat Cramps
Muscular pains and spasms due to heavy exertion. Although heat cramps are the least severe, they are often the first signal that the body is having trouble with the heat.

Heat Exhaustion
Typically occurs when people exercise heavily or work in a hot, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to the vital organs. This results in a form of mild shock. If not treated, the victim's condition will worsen. Body temperature will keep rising and the victim may suffer heat stroke.

Heat Stroke
A life-threatening condition. The victim's temperature control system, which produces sweating to cool the body, stops working. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly.

Sun Stroke
Another term for heat stroke.

Take Protective Measures

Before Extreme Heat

To prepare for extreme heat, you should:

- Install window air conditioners snugly; insulate if necessary.
- Check air-conditioning ducts for proper insulation.
- Install temporary window reflectors (for use between windows and drapes), such as aluminum foil-covered cardboard, to reflect heat back outside.
- Weather-strip doors and sills to keep cool air in.

- Cover windows that receive morning or afternoon sun with drapes, shades, awnings, or louvers. (Outdoor awnings or louvers can reduce the heat that enters a home by up to 80 percent.)
- Keep storm windows up all year.

During a Heat Emergency

The following are guidelines for what you should do if the weather is extremely hot:

- Stay indoors as much as possible and limit exposure to the sun.
- Stay on the lowest floor out of the sunshine if air conditioning is not available.
- Consider spending the warmest part of the day in public buildings such as libraries, schools, movie theaters, shopping malls, and other community facilities. Circulating air can cool the body by increasing the perspiration rate of evaporation.
- Eat well-balanced, light, and regular meals. Avoid using salt tablets unless directed to do so by a physician.
- Drink plenty of water. Persons who have epilepsy or heart, kidney, or liver disease; are on fluid-restricted diets; or have a problem with fluid retention should consult a doctor before increasing liquid intake.
- Limit intake of alcoholic beverages.
- Dress in loose-fitting, lightweight, and light-colored clothes that cover as much skin as possible.
- Protect face and head by wearing a wide-brimmed hat.
- Check on family, friends, and neighbors who do not have air conditioning and who spend much of their time alone.
- Never leave children or pets alone in closed vehicles.
- Avoid strenuous work during the warmest part of the day. Use a buddy system when working in extreme heat, and take frequent breaks.

First Aid for Heat-Induced Illnesses

Extreme heat brings with it the possibility of heat-induced illnesses. The following table lists these illnesses, their symptoms, and the first aid treatment.

Condition	Symptoms	First Aid
Sunburn	Skin redness and pain, possible swelling, blisters, fever, headaches	• Take a shower using soap to remove oils that may block pores, preventing the body from cooling naturally. • Apply dry, sterile dressings to any blisters, and get medical attention.
Heat Cramps	Painful spasms, usually in leg and abdominal muscles; heavy sweating	• Get the victim to a cooler location. • Lightly stretch and gently massage affected muscles to relieve spasms. • Give sips of up to a half glass of cool water every 15 minutes. (Do not give liquids with caffeine or alcohol.) • Discontinue liquids, if victim is nauseated.
Heat Exhaustion	Heavy sweating but skin may be cool, pale, or flushed. Weak pulse. Normal body temperature is possible, but temperature will likely rise. Fainting or dizziness, nausea, vomiting, exhaustion, and headaches are possible.	• Get victim to lie down in a cool place. • Loosen or remove clothing. • Apply cool, wet cloths. • Fan or move victim to air-conditioned place. • Give sips of water if victim is conscious. • Be sure water is consumed slowly. • Give half glass of cool water every 15 minutes. • Discontinue water if victim is nauseated. • Seek immediate medical attention if vomiting occurs.
Heat Stroke (a severe medical emergency)	High body temperature (105+); hot, red, dry skin; rapid, weak pulse; and rapid, shallow breathing. Victim will probably not sweat unless victim was sweating from recent strenuous activity. Possible unconsciousness.	• Call 9-1-1 or emergency medical services, or get the victim to a hospital immediately. **Delay can be fatal.** • Move victim to a cooler environment. • Remove clothing. • Try a cool bath, sponging, or wet sheet to reduce body temperature. • Watch for breathing problems. • Use extreme caution. • Use fans and air conditioners.

Additional Information

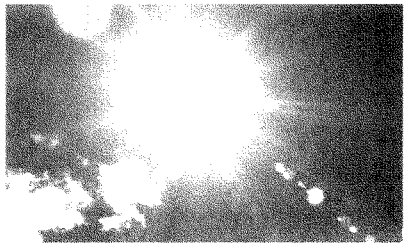
An emergency water shortage can be caused by prolonged drought, poor water supply management, or contamination of a surface water supply source or aquifer.

Drought can affect vast territorial regions and large population numbers. Drought also creates environmental conditions that increase the risk of other hazards such as fire, flash flood, and possible landslides and debris flow.

Conserving water means more water available for critical needs for everyone. Appendix A contains detailed suggestions for conserving water both indoors and outdoors. Make these practices a part of your daily life and help preserve this essential resource.

After Extreme Heat

Follow the instructions for recovering from a disaster in Part 5.



Knowledge Check

You and a friend have been outdoors in the sun for some time. Shortly after coming inside, your friend complains of nausea and headache but tells you not to worry as it is probably a food allergy.

What would you advise him or her to do?

Answer: Seek immediate medical attention and discontinue intake of water.

For More Information

If you require more information about any of these topics, the following resource may be helpful.

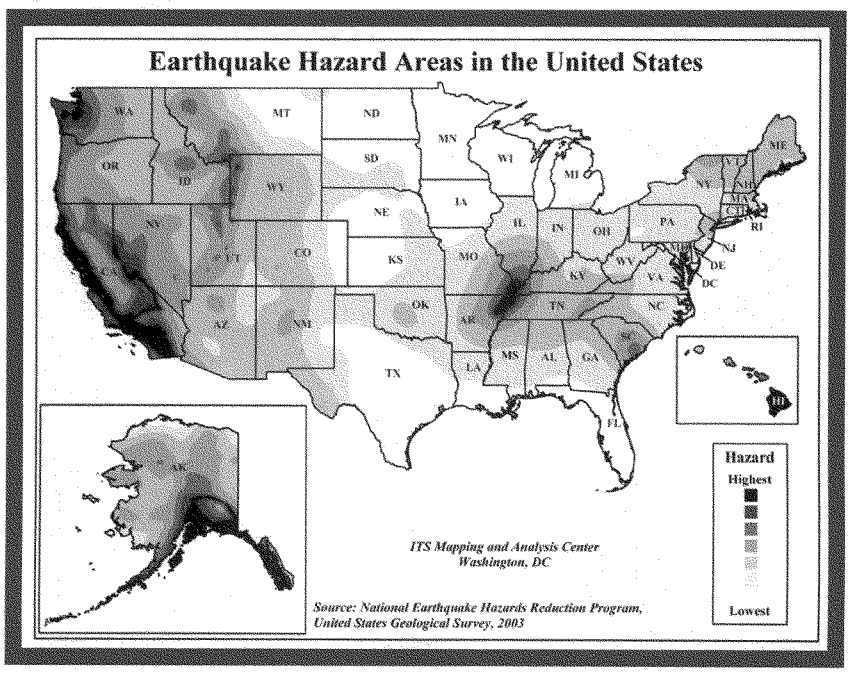
Publications

National Weather Service

Heat Wave: A Major Summer Killer. An online brochure describing the heat index, heat disorders, and heat wave safety tips. Available online at: www.nws.noaa.gov/om/brochures/heat_wave.htm

2.7 Earthquakes

One of the most frightening and destructive phenomena of nature is a severe earthquake and its terrible aftereffects. An earthquake is a sudden movement of the earth, caused by the abrupt release of strain that has accumulated over a long time. For hundreds of millions of years, the forces of plate tectonics have shaped the earth, as the huge plates that form the earth's surface slowly move over, under, and past each other. Sometimes, the movement is gradual. At other times, the plates are locked together, unable to release the accumulating energy. When the accumulated energy grows strong enough, the plates break free. If the earthquake occurs in a populated area, it may cause many deaths and injuries and extensive property damage.



Know the Terms

Familiarize yourself with these terms to help identify an earthquake hazard:

Earthquake
A sudden slipping or movement of a portion of the earth's crust, accompanied and followed by a series of vibrations.

Aftershock
An earthquake of similar or lesser intensity that follows the main earthquake.

Fault
The fracture across which displacement has occurred during an earthquake. The slippage may range from less than an inch to more than 10 yards in a severe earthquake.

Epicenter
The place on the earth's surface directly above the point on the fault where the earthquake rupture began. Once fault slippage begins, it expands along the fault during the earthquake and can extend hundreds of miles before stopping.

Seismic Waves
Vibrations that travel outward from the earthquake fault at speeds of several miles per second. Although fault slippage directly under a structure can cause considerable damage, the vibrations of seismic waves cause most of the destruction during earthquakes.

Magnitude
The amount of energy released during an earthquake, which is computed from the amplitude of the seismic waves. A magnitude of 7.0 on the Richter Scale indicates an extremely strong earthquake. Each whole number on the scale represents an increase of about 30 times more energy released than the previous whole number represents. Therefore, an earthquake measuring 6.0 is about 30 times more powerful than one measuring 5.0.

Take Protective Measures

Before an Earthquake

The following are things you can do to protect yourself, your family, and your property in the event of an earthquake:

- Repair defective electrical wiring, leaky gas lines, and inflexible utility connections. Get appropriate professional help. Do not work with gas or electrical lines yourself.

- Bolt down and secure to the wall studs your water heater, refrigerator, furnace, and gas appliances. If recommended by your gas company, have an automatic gas shut-off valve installed that is triggered by strong vibrations.
- Place large or heavy objects on lower shelves. Fasten shelves, mirrors, and large picture frames to walls. Brace high and top-heavy objects.
- Store bottled foods, glass, china, and other breakables on low shelves or in cabinets that fasten shut.
- Anchor overhead lighting fixtures.
- Be sure the residence is firmly anchored to its foundation.
- Install flexible pipe fittings to avoid gas or water leaks. Flexible fittings are more resistant to breakage.
- Locate safe spots in each room under a sturdy table or against an inside wall. Reinforce this information by moving to these places during each drill.
- Hold earthquake drills with your family members: Drop, cover, and hold on!

During an Earthquake

Minimize your movements during an earthquake to a few steps to a nearby safe place. Stay indoors until the shaking has stopped and you are sure exiting is safe.

If you are:	Then:
Indoors	• Take cover under a sturdy desk, table, or bench or against an inside wall, and hold on. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building. • Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture. • Stay in bed—if you are there when the earthquake strikes—hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place. • Use a doorway for shelter only if it is in close proximity to you and if you know it is a strongly supported, load-bearing doorway. • Stay inside until the shaking stops and it is safe to go outside. Most injuries during earthquakes occur when people are hit by falling objects when entering into or exiting from buildings. • Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on. • DO NOT use the elevators.
Outdoors	• Stay there. • Move away from buildings, streetlights, and utility wires.

If you are:	Then:
In a moving vehicle	• Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires. • Proceed cautiously once the earthquake has stopped, watching for road and bridge damage.
Trapped under debris	• Do not light a match. • Do not move about or kick up dust. • Cover your mouth with a handkerchief or clothing. • Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort—shouting can cause you to inhale dangerous amounts of dust.

After an Earthquake

- Be prepared for aftershocks. These secondary shockwaves are usually less violent than the main quake but can be strong enough to do additional damage to weakened structures.
- Open cabinets cautiously. Beware of objects that can fall off shelves.
- Stay away from damaged areas unless your assistance has been specifically requested by police, fire, or relief organizations.
- Be aware of possible tsunamis if you live in coastal areas. These are also known as seismic sea waves (mistakenly called "tidal waves"). When local authorities issue a tsunami warning, assume that a series of dangerous waves is on the way. Stay away from the beach.

Knowledge Check

Check your knowledge about what to do during an earthquake. For each question, choose answer *A* or *B* and circle the correct response. When you have finished, check your responses using the answer key below.

What action should you take during an earthquake? The answer varies by where you are when an earthquake strikes. For each situation, pick the best course of action from the choices given.

1. At home	A. Stay inside B. Go out to the street
2. In bed	A. Stand by a window to see what is happening B. Stay in bed and protect your head with a pillow
3. In any building	A. Stand in a doorway B. Crouch in an inside corner away from the exterior wall
4. On the upper floor of an apartment building	A. Take the elevator to the ground floor as quickly as possible B. Stay in an interior room under a desk or table
5. Outdoors	A. Run into the nearest building B. Stay outside away from buildings
6. Driving a car	A. Stop the car in an open area B. Stop the car under an overpass

Answer key

1. A 2. B 3. B 4. B 5. B 6. A

For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

FEMA Publications

Avoiding Earthquake Damage: A Checklist for Homeowners. Safety tips for before, during, and after an earthquake

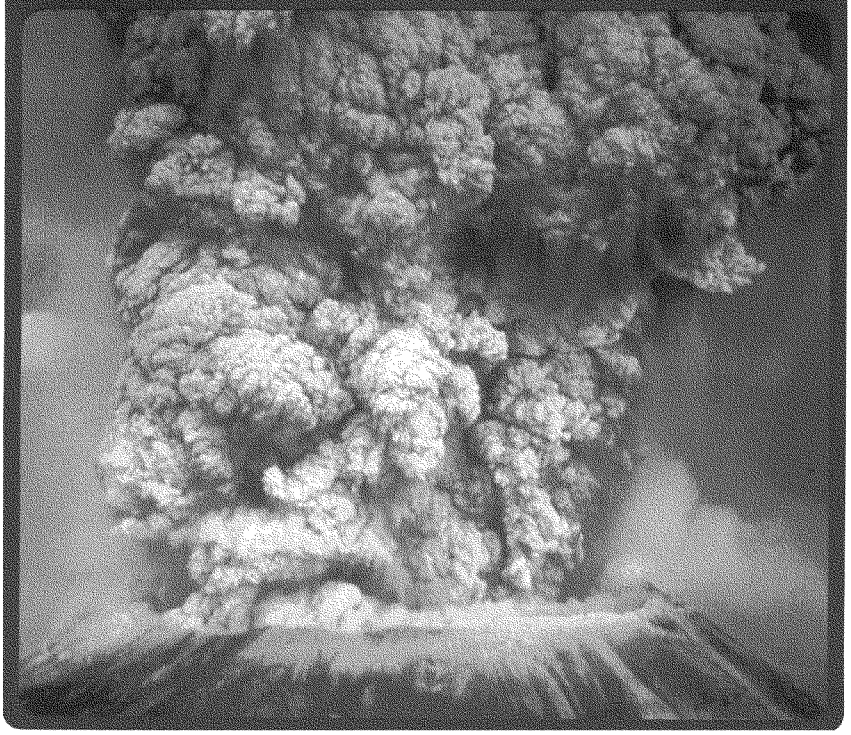
Preparedness in High-Rise Buildings. FEMA-76. Earthquake safety tips for high-rise dwellers

Learning to Live in Earthquake Country: Preparedness in Apartments and Mobile Homes. L-143. Safety tips on earthquake preparation for residents of apartments and mobile homes

Family Earthquake Safety Home Hazard Hunt and Drill. FEMA-113. How to identify home hazards; how to conduct earthquake drills

Earthquake Preparedness: What Every Childcare Provider Should Know. FEMA 240. Publication for teachers and for presentation to children. Available online at www.fema.gov/kids/tch_eq.htm

2.8 Volcanoes

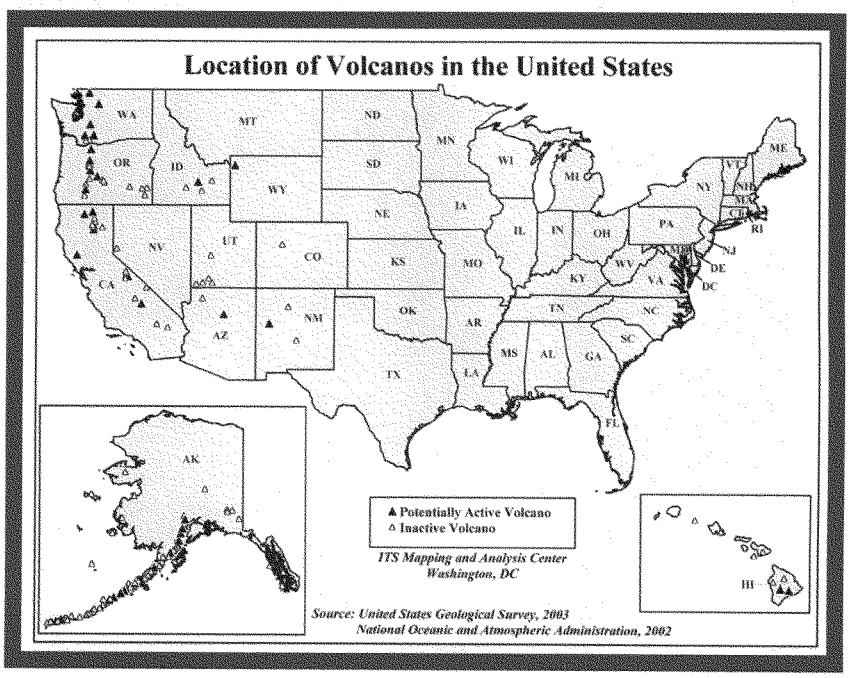


A volcano is a vent through which molten rock escapes to the earth's surface. When pressure from gases within the molten rock becomes too great, an eruption occurs. Eruptions can be quiet or explosive. There may be lava flows, flattened landscapes, poisonous gases, and flying rock and ash.

Because of their intense heat, lava flows are great fire hazards. Lava flows destroy everything in their path, but most move slowly enough that people can move out of the way.

Fresh volcanic ash, made of pulverized rock, can be abrasive, acidic, gritty, gassy, and odorous. While not immediately dangerous to most adults, the acidic gas and ash can cause lung damage to small infants, to older adults, and to those suffering from severe respiratory illnesses. Volcanic ash also can damage machinery, including engines and electrical equipment. Ash accumulations mixed with water become heavy and can collapse roofs.

Volcanic eruptions can be accompanied by other natural hazards, including earthquakes, mudflows and flash floods, rock falls and landslides, acid rain, fire, and (under special conditions) tsunamis. Active volcanoes in the U.S. are found mainly in Hawaii, Alaska, and the Pacific Northwest.



Take Protective Measures

Before a Volcanic Eruption

- Add a pair of goggles and a disposable breathing mask for each member of the family to your disaster supplies kit.
- Stay away from active volcano sites.

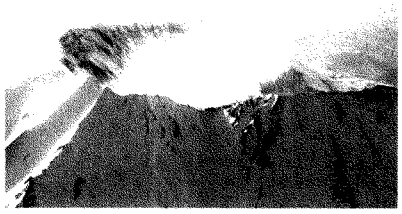
During a Volcanic Eruption

The following are guidelines for what to do if a volcano erupts in your area:

- Evacuate immediately from the volcano area to avoid flying debris, hot gases, lateral blast, and lava flow.
- Be aware of mudflows. The danger from a mudflow increases near stream channels and with prolonged heavy rains. Mudflows can move faster than you can walk or run. Look upstream before crossing a bridge, and do not cross the bridge if mudflow is approaching.
- Avoid river valleys and low-lying areas.

Protection from Falling Ash

- Wear long-sleeved shirts and long pants.
- Use goggles and wear eyeglasses instead of contact lenses.
- Use a dust mask or hold a damp cloth over your face to help with breathing.
- Stay away from areas downwind from the volcano to avoid volcanic ash.
- Stay indoors until the ash has settled unless there is danger of the roof collapsing.
- Close doors, windows, and all ventilation in the house (chimney vents, furnaces, air conditioners, fans, and other vents).
- Clear heavy ash from flat or low-pitched roofs and rain gutters.
- Avoid running car or truck engines. Driving can stir up volcanic ash that can clog engines, damage moving parts, and stall vehicles.
- Avoid driving in heavy ash fall unless absolutely required. If you have to drive, keep speed down to 35 MPH or slower.



After a Volcanic Erruption

Follow the instructions for recovering from a disaster in Part 5.

Knowledge Check

Read the scenario and answer the question. Check your responses with the answer key below.

Scenario

About an hour after the eruption of Mount St. Helens, ash began to fall in Yakima, a city in eastern Washington. The ash fall was so extensive and it became so dark that lights were turned on all day. It took 10 weeks to haul away the ash from Yakima's streets, sidewalks, and roofs.

Assume you were a resident of Yakima during this time. What would you need to protect yourself when going outside?

For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

Publications

National Weather Service

Heat Wave: A Major Summer Killer. An online brochure describing the heat index, heat disorders, and heat wave safety tips. Available online at: www.nws.noaa.gov/om//brochures/heat_wave.htm

U.S. Geological Survey

Volcano Hazards Program. Website with volcano activity updates, feature stories, information about volcano hazards, and resources. Available online at: http://volcanoes.usgs.gov

Answer key

1. Face masks 2. Goggles 3. Eyeglasses instead of contact lenses 4. Clothing to cover as much of the body as possible

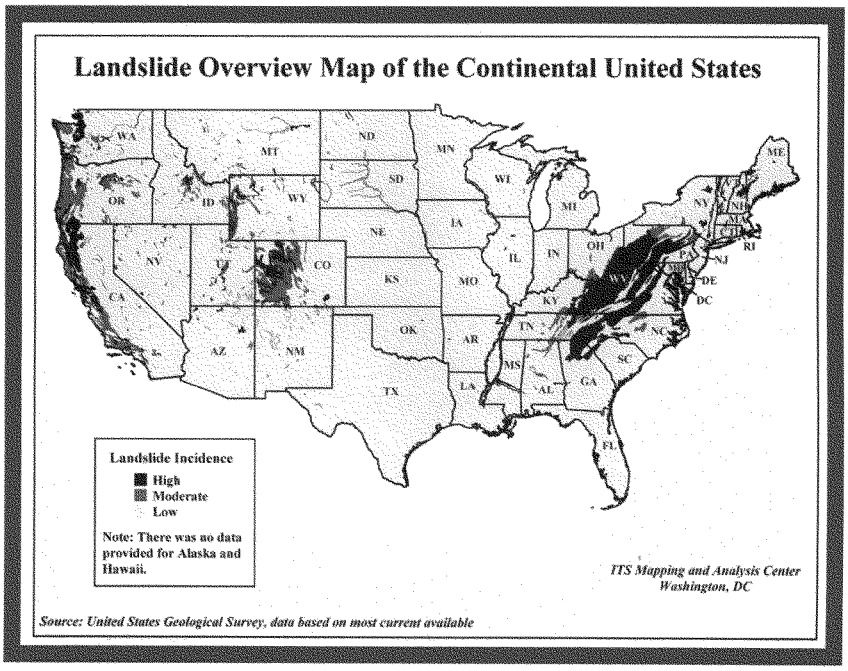
2.9 Landslides and Debris Flow (Mudslide)

2.9 Landslides and Debris Flow (Mudslide)

Landslides occur in all U.S. states and territories. In a landslide, masses of rock, earth, or debris move down a slope. Landslides may be small or large, slow or rapid. They are activated by storms, earthquakes, volcanic eruptions, fires, and human modification of land.

Debris and mud flows are rivers of rock, earth, and other debris saturated with water. They develop when water rapidly accumulates in the ground, during heavy rainfall or rapid snowmelt, changing the earth into a flowing river of mud or "slurry." They flow can rapidly, striking with little or no warning at avalanche speeds. They also can travel several miles from their source, growing in size as they pick up trees, boulders, cars, and other materials.

Landslide problems can be caused by land mismanagement, particularly in mountain, canyon, and coastal regions. Land-use zoning, professional inspections, and proper design can minimize many landslide, mudflow, and debris flow problems.



Take Protective Measures

The following are steps you can take to protect yourself from the effects of a landslide or debris flow:

- Do not build near steep slopes, close to mountain edges, near drainage ways, or natural erosion valleys.
- Get a ground assessment of your property.
- Consult an appropriate professional expert for advice on corrective measures.
- Minimize home hazards by having flexible pipe fittings installed to avoid gas or water leaks, as flexible fittings are more resistant to breakage (only the gas company or professionals should install gas fittings).

Recognize Landslide Warning Signs

- Changes occur in your landscape such as patterns of storm-water drainage on slopes (especially the places where runoff water converges) land movement, small slides, flows, or progressively leaning trees.
- Doors or windows stick or jam for the first time.
- New cracks appear in plaster, tile, brick, or foundations.
- Outside walls, walks, or stairs begin pulling away from the building.
- Slowly developing, widening cracks appear on the ground or on paved areas such as streets or driveways.
- Underground utility lines break.
- Bulging ground appears at the base of a slope.
- Water breaks through the ground surface in new locations.
- Fences, retaining walls, utility poles, or trees tilt or move.
- A faint rumbling sound that increases in volume is noticeable as the landslide nears.
- The ground slopes downward in one direction and may begin shifting in that direction under your feet.
- Unusual sounds, such as trees cracking or boulders knocking together, might indicate moving debris.
- Collapsed pavement, mud, fallen rocks, and other indications of possible debris flow can be seen when driving (embankments along roadsides are particularly susceptible to landslides).

During a Landslide or Debris Flow

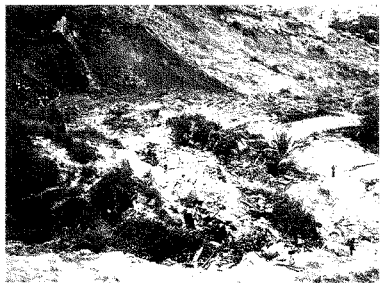
The following are guidelines for what you should do if a landslide or debris flow occurs:

- Move away from the path of a landslide or debris flow as quickly as possible.
- Curl into a tight ball and protect your head if escape is not possible.

After a Landslide or Debris Flow

The following are guidelines for the period following a landslide:

- Stay away from the slide area. There may be danger of additional slides.
- Check for injured and trapped persons near the slide, without entering the direct slide area. Direct rescuers to their locations.
- Watch for associated dangers such as broken electrical, water, gas, and sewage lines and damaged roadways and railways.
- Replant damaged ground as soon as possible since erosion caused by loss of ground cover can lead to flash flooding and additional landslides in the near future.
- Seek advice from a geotechnical expert for evaluating landslide hazards or designing corrective techniques to reduce landslide risk.
- Follow the instructions for returning home in Part 5.



Knowledge Check

Review the following information and answer the questions. Check your responses with the answer key below.

Landslides occur in all 50 states—it is estimated that they cause between 25 and 50 deaths each year in the U.S. and thousands more in vulnerable areas around the globe. The number of landslides in the United States is expected to increase.

1. What might account for the projected increase in landslides?

2. What can you do to help reverse the upward trend?

Answer Key

1. Mounting pressure for approving the development of lands subject to landslides and earth failures has increased development in these unsafe areas.

2. Work with others in the community to enact and enforce regulations that prohibit building near areas subject to landslides and mudslides. In areas where the hazard exists and development has already occurred, work to promote protective measures such as encouraging homeowners to get a professional ground assessment of their property and educating residents about the warning signs.

2.10 Tsunamis

2.10 Tsunamis

Are You Ready?

Tsunamis (pronounced soo-ná-mees), also known as seismic sea waves (mistakenly called "tidal waves"), are a series of enormous waves created by an underwater disturbance such as an earthquake, landslide, volcanic eruption, or meteorite. A tsunami can move hundreds of miles per hour in the open ocean and smash into land with waves as high as 100 feet or more.

From the area where the tsunami originates, waves travel outward in all directions. Once the wave approaches the shore, it builds in height. The topography of the coastline and the ocean floor will influence the size of the wave. There may be more than one wave and the succeeding one may be larger than the one before. That is why a small tsunami at one beach can be a giant wave a few miles away.

All tsunamis are potentially dangerous, even though they may not damage every coastline they strike. A tsunami can strike anywhere along most of the U.S. coastline. The most destructive tsunamis have occurred along the coasts of California, Oregon, Washington, Alaska, and Hawaii.

Earthquake-induced movement of the ocean floor most often generates tsunamis. If a major earthquake or landslide occurs close to shore, the first wave in a series could reach the beach in a few minutes, even before a warning is issued. Areas are at greater risk if they are less than 25 feet above sea level and within a mile of the shoreline. Drowning is the most common cause of death associated with a tsunami. Tsunami waves and the receding water are very destructive to structures in the run-up zone. Other hazards include flooding, contamination of drinking water, and fires from gas lines or ruptured tanks.

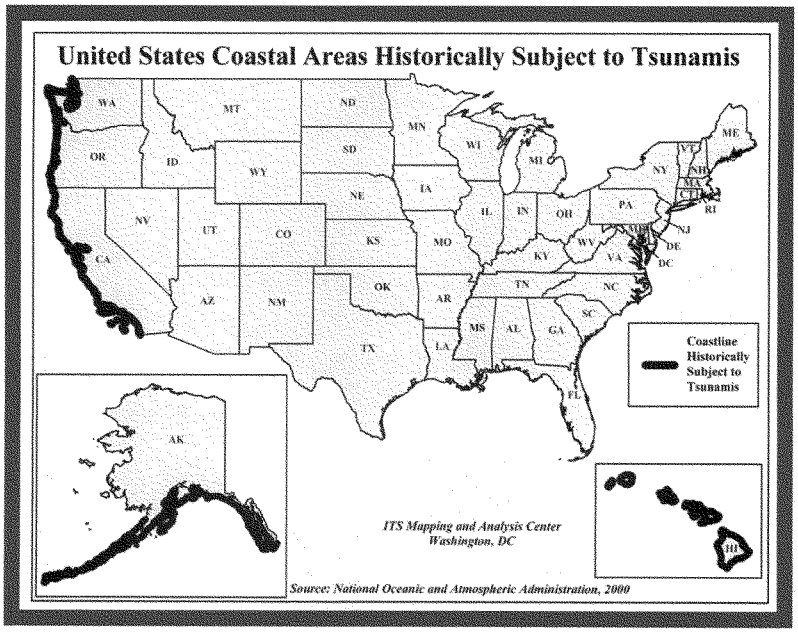
Know the Terms

Familiarize yourself with these terms to help identify a tsunami hazard:

Advisory
An earthquake has occurred in the Pacific basin, which might generate a tsunami.

Watch
A tsunami was or may have been generated, but is at least two hours travel time to the area in Watch status.

Warning
A tsunami was, or may have been generated, which could cause damage; therefore, people in the warned area are strongly advised to evacuate.



Take Protective Measures

During a Tsunami

The following are guidelines for what you should do if a tsunami is likely in your area:

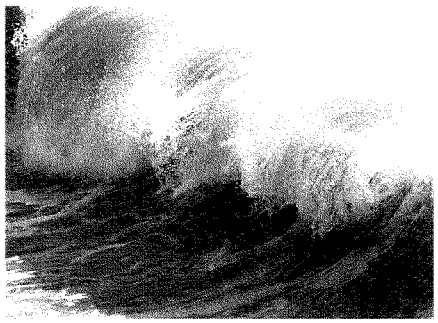
- Turn on your radio to learn if there is a tsunami warning if an earthquake occurs and you are in a coastal area.
- Move inland to higher ground immediately and stay there.

If there is noticeable recession in water away from the shoreline this is nature's tsunami warning and it should be heeded. You should move away immediately.

After a Tsunami

The following are guidelines for the period following a tsunami:

- Stay away from flooded and damaged areas until officials say it is safe to return.
- Stay away from debris in the water; it may pose a safety hazard to boats and people.



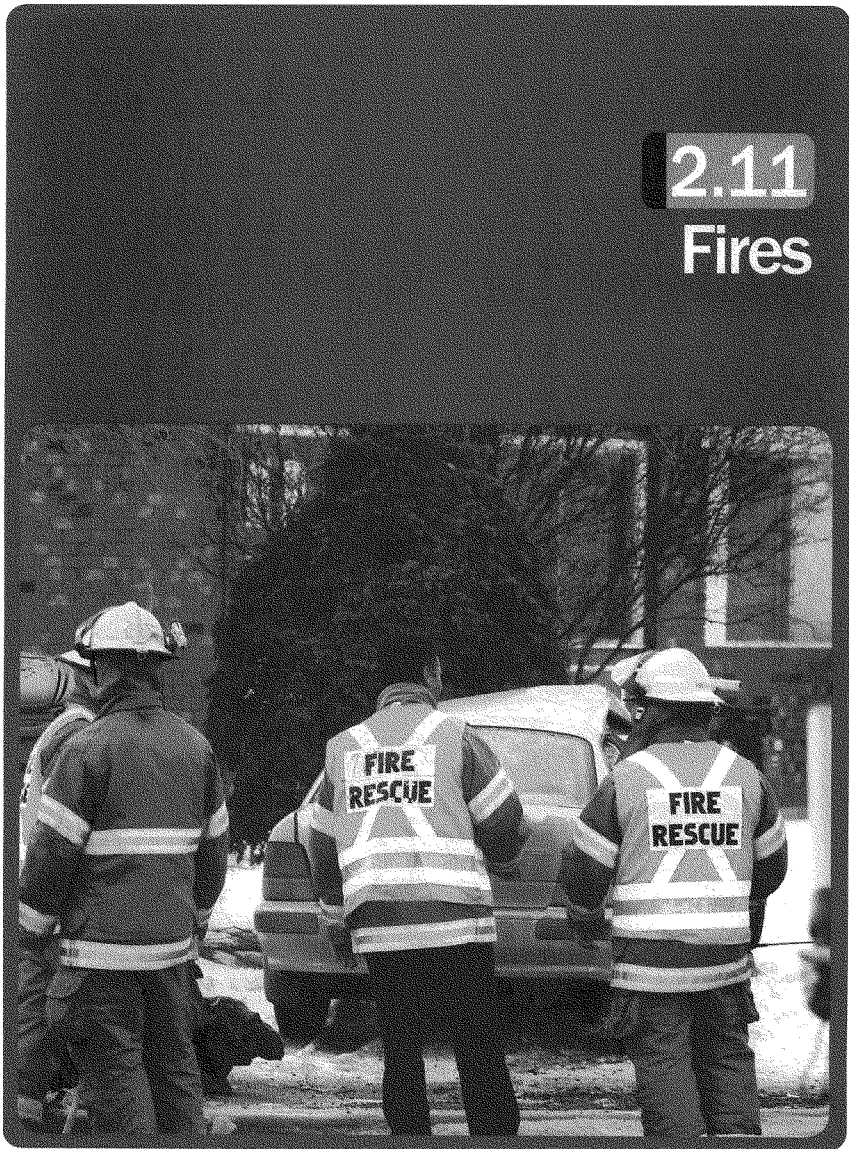
Save Yourself—Not Your Possesions

Like everyone else in Maullin, Chile, Ramon Atala survived the 1960 Chile earthquake. However, he lost his life trying to save something from the tsunami that followed.

Mr. Atala was Maullin's most prosperous merchant. Outside of town, he owned a barn and a plantation of Monterey pine. In town, he owned a pier and at least one large building and also had private quarters in a waterfront warehouse.

Mr. Atala entered this warehouse between the first and second wave of the tsunami that struck Maullin. The warehouse was washed away and his body was never found.

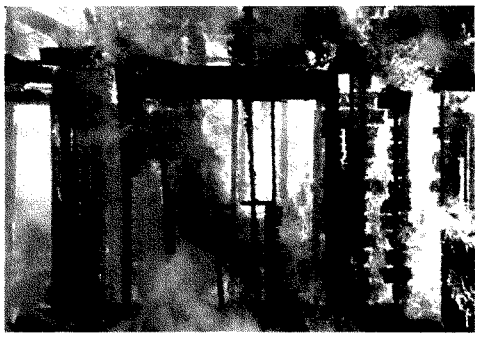
It is unclear what he was trying to save. What is clear is that no possession is worth your life and that it is important to get to higher ground away from the coast and stay there until it is safe to return.


2.11
Fires
FIRE
RESCUE
FIRE
RESCUE

Each year, more than 4,000 Americans die and more than 25,000 are injured in fires, many of which could be prevented. Direct property loss due to fires is estimated at $8.6 billion annually.

To protect yourself, it is important to understand the basic characteristics of fire. Fire spreads quickly; there is no time to gather valuables or make a phone call. In just two minutes, a fire can become life-threatening. In five minutes, a residence can be engulfed in flames.

Heat and smoke from fire can be more dangerous than the flames. Inhaling the super-hot air can sear your lungs. Fire produces poisonous gases that make you disoriented and drowsy. Instead of being awakened by a fire, you may fall into a deeper sleep. Asphyxiation is the leading cause of fire deaths, exceeding burns by a three-to-one ratio.



Take Protective Measures

Before a Fire

Smoke Alarms

- Install smoke alarms. Properly working smoke alarms decrease your chances of dying in a fire by half.
- Place smoke alarms on every level of your residence. Place them outside bedrooms on the ceiling or high on the wall (4 to 12 inches from ceiling), at the top of open stairways, or at the bottom of enclosed stairs and near (but not in) the kitchen.
- Test and clean smoke alarms once a month and replace batteries at least once a year. Replace smoke alarms once every 10 years.

Escaping the Fire

- Review escape routes with your family. Practice escaping from each room.
- Make sure windows are not nailed or painted shut. Make sure security gratings on windows have a fire safety opening feature so they can be easily opened from the inside.

- Consider escape ladders if your residence has more than one level, and ensure that burglar bars and other antitheft mechanisms that block outside window entry are easily opened from the inside.
- Teach family members to stay low to the floor (where the air is safer in a fire) when escaping from a fire.
- Clean out storage areas. Do not let trash, such as old newspapers and magazines, accumulate.

Flammable Items

- Never use gasoline, benzine, naptha, or similar flammable liquids indoors.
- Store flammable liquids in approved containers in well-ventilated storage areas.
- Never smoke near flammable liquids.
- Discard all rags or materials that have been soaked in flammable liquids after you have used them. Safely discard them outdoors in a metal container.
- Insulate chimneys and place spark arresters on top. The chimney should be at least three feet higher than the roof. Remove branches hanging above and around the chimney.

Heating Sources

- Be careful when using alternative heating sources.
- Check with your local fire department on the legality of using kerosene heaters in your community. Be sure to fill kerosene heaters outside, and be sure they have cooled.
- Place heaters at least three feet away from flammable materials. Make sure the floor and nearby walls are properly insulated.
- Use only the type of fuel designated for your unit and follow manufacturer's instructions.
- Store ashes in a metal container outside and away from your residence.
- Keep open flames away from walls, furniture, drapery, and flammable items.
- Keep a screen in front of the fireplace.
- Have heating units inspected and cleaned annually by a certified specialist.

Matches and Smoking

- Keep matches and lighters up high, away from children, and, if possible, in a locked cabinet.
- Never smoke in bed or when drowsy or medicated. Provide smokers with deep, sturdy ashtrays. Douse cigarette and cigar butts with water before disposal.

Electrical Wiring

- Have the electrical wiring in your residence checked by an electrician.
- Inspect extension cords for frayed or exposed wires or loose plugs.
- Make sure outlets have cover plates and no exposed wiring.
- Make sure wiring does not run under rugs, over nails, or across high-traffic areas.
- Do not overload extension cords or outlets. If you need to plug in two or three appliances, get a UL-approved unit with built-in circuit breakers to prevent sparks and short circuits.
- Make sure insulation does not touch bare electrical wiring.

Other

- Sleep with your door closed.
- Install A-B-C-type fire extinguishers in your residence and teach family members how to use them.
- Consider installing an automatic fire sprinkler system in your residence.
- Ask your local fire department to inspect your residence for fire safety and prevention.

During a Fire

If your clothes catch on fire, you should:

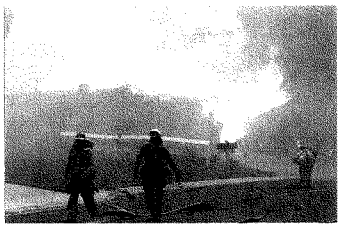
- **Stop, drop, and roll**—until the fire is extinguished. Running only makes the fire burn **faster**.

To escape a fire, you should:

- **Check closed doors for heat before you open them.** If you are escaping through a closed door, use the back of your hand to feel the top of the door, the doorknob, and the crack between the door and door frame before you open it. Never use the palm of your hand or fingers to test for heat—burning those areas could impair your ability to escape a fire (i.e., ladders and crawling).

Hot Door	Cool Door
Do not open. Escape through a window. If you cannot escape, hang a white or light-colored sheet outside the window, alerting fire fighters to your presence.	Open slowly and ensure fire and/or smoke is not blocking your escape route. If your escape route is blocked, shut the door immediately and use an alternate escape route, such as a window. If clear, leave immediately through the door and close it behind you. Be prepared to crawl. Smoke and heat rise. The air is clearer and cooler near the floor.

- Crawl low under any smoke to your exit—heavy smoke and poisonous gases collect first along the ceiling.
- Close doors behind you as you escape to delay the spread of the fire.
- Stay out once you are safely out. Do not reenter. Call 9-1-1.



After a Fire

The following are guidelines for different circumstances in the period following a fire:

- If you are with burn victims, or are a burn victim yourself, call 9-1-1; cool and cover burns to reduce chance of further injury or infection.
- If you detect heat or smoke when entering a damaged building, evacuate immediately.
- If you are a tenant, contact the landlord.
- If you have a safe or strong box, do not try to open it. It can hold intense heat for several hours. If the door is opened before the box has cooled, the contents could burst into flames.
- If you must leave your home because a building inspector says the building is unsafe, ask someone you trust to watch the property during your absence.
- Follow the instructions for recovering from a disaster in Part 5.

Knowledge Check

Answer each question and check your responses using the answer key below.

1. You need to escape a fire through a closed door. What, if anything, should you do before opening the door?

2. What should you do if your clothes are on fire?

3. What actions should be taken for burn victims?

4. To reduce heating costs, you installed a wood-burning stove. What can you do to reduce the risk of fire from this heating source?

5. To escape in thick smoke, what should you do?

Answer key

1. Check the door for heat with the back of your hand
2. Stop, drop, and roll
3. Call 9-1-1 and cool and cover burns
4. Have the stove cleaned and inspected by a certified specialist
5. Crawl close to the floor

For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

FEMA Publications

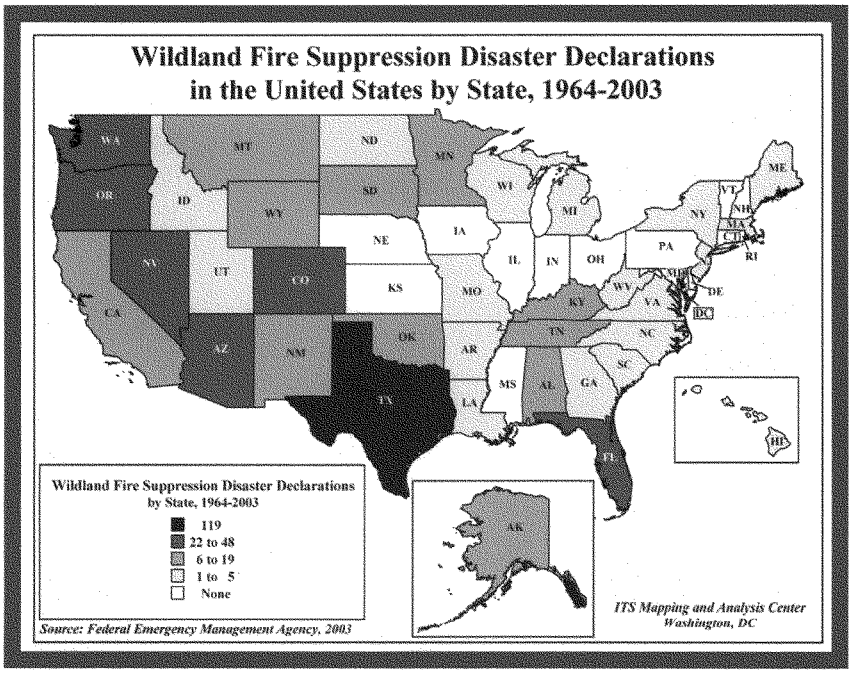
After the Fire: Returning to Normal. FA 046. This 16-page booklet provides information about recovering from a fire, including what to do during the first 24 hours, insurance considerations, valuing your property, replacement of valuable documents, salvage hints, fire department operations, and more. Available online at www.usfa.fema.gov/public/hfs/pubs/atf/after.shtm

Protecting Your Family From Fire. FA 130. This pamphlet was written to provide the information you need to decide what you must do to protect your family from fire. Topics include children, sleepwear, older adults, smoke detectors, escape plans, and residential sprinklers. Available online at www.usfa.fema.gov/public/hfs/pubs/hfs_pubs2.shtm

Fire Risks for the Hard of Hearing. FA 202; *Fire Risks for the Older Adult.* FA 203; *Fire Risks for the Mobility Impaired.* FA 204; *Fire Risks for the Blind or Visually Impaired.* FA 205
These reports address preparation for fire risks for populations with special challenges. All are available online at www.usfa.fema.gov/fire-service/education/education-pubs.shtm

2.12 Wildfires

If you live on a remote hillside or in a valley, prairie, or forest where flammable vegetation is abundant, your residence could be vulnerable to wildfires. These fires are usually triggered by lightning or accidents. Wildfires spread quickly, igniting brush, trees, and homes.



Take Protective Measures

Before a Wildfire

To prepare for wildfires, you should:

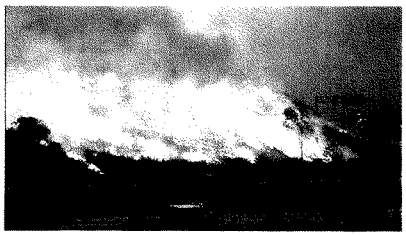
- Mark the entrance to your property with address signs that are clearly visible from the road.
- Keep lawns trimmed, leaves raked, and the roof and rain gutters free from debris such as dead limbs and leaves.
- Stack firewood at least 30 feet away from your residence.

- Store flammable materials, liquids, and solvents in metal containers outside your residence at least 30 feet away from structures and wooden fences.
- Create defensible space by thinning trees and brush within 30 feet around your residence. Beyond 30 feet, remove dead wood, debris, and low tree branches.
- Landscape your property with fire resistant plants and vegetation to prevent fire from spreading quickly. For example, hardwood trees are more fire-resistant than pine, evergreen, eucalyptus, or fir trees.
- Make sure water sources, such as hydrants, ponds, swimming pools, and wells, are accessible to the fire department.
- Use fire resistant, protective roofing and materials like stone, brick, and metal to protect your residence. Avoid using wood materials. They offer the least fire protection.
- Cover all exterior vents, attics, and eaves with metal mesh screens no larger than 6 millimeters or 1/4 inch to prevent debris from collecting and to help keep sparks out.
- Install multi-pane windows, tempered safety glass, or fireproof shutters to protect large windows from radiant heat.
- Use fire-resistant draperies for added window protection.
- Have chimneys, wood stoves, and all home heating systems inspected and cleaned annually by a certified specialist.
- Insulate chimneys and place spark arresters on top. The chimney should be at least 3 feet above the roof.
- Remove branches hanging above and around the chimney.

Follow Local Burning Laws

Before burning debris in a wooded area, make sure you notify local authorities, obtain a burning permit, and follow these guidelines:

- Use an approved incinerator with a safety lid or covering with holes no larger than 3/4 inch.
- Create at least a 10-foot clearing around the incinerator before burning debris.
- Have a fire extinguisher or garden hose on hand when burning debris.



During a Wildfire

If a wildfire threatens your home and time permits, take the following precautions:

- Shut off gas at the meter. Only a qualified professional can safely turn the gas back on.
- Seal attic and ground vents with pre-cut plywood or commercial seals.
- Turn off propane tanks.
- Place combustible patio furniture inside.
- Connect garden hose to outside taps. Place lawn sprinklers on the roof and near above-ground fuel tanks. Wet the roof.
- Wet or remove shrubs within 15 feet of your residence.
- Gather fire tools such as a rake, axe, handsaw or chainsaw, bucket, and shovel.
- Back your car into the garage or park it in an open space facing the direction of escape. Shut doors and roll up windows. Leave the key in the ignition and the car doors unlocked. Close garage windows and doors, but leave them unlocked. Disconnect automatic garage door openers.
- Open fireplace damper. Close fireplace screens.
- Close windows, vents, doors, blinds or noncombustible window coverings, and heavy drapes. Remove flammable drapes and curtains.
- Move flammable furniture into the center of the residence away from windows and sliding-glass doors.
- Close all interior doors and windows to prevent drafts.
- Place valuables that will not be damaged by water in a pool or pond.

If advised to evacuate, do so immediately. Choose a route away from the fire hazard. Watch for changes in the speed and direction of the fire and smoke.

After a Wildfire

Follow the instructions for recovering from a disaster in Part 5.

For More Information

If you require more information about any of these topics, the following resource may be helpful.

FEMA Publications

Wildfire: Are You Prepared? L-203. Wildfire safety tips, preparedness, and mitigation techniques.

3 Technological Hazards

Technological hazards include hazardous materials incidents and nuclear power plant failures. Usually, little or no warning precedes incidents involving technological hazards. In many cases, victims may not know they have been affected until many years later. For example, health problems caused by hidden toxic waste sites—like that at Love Canal, near Niagara Falls, New York—surfaced years after initial exposure.

The number of technological incidents is escalating, mainly as a result of the increased number of new substances and the opportunities for human error inherent in the use of these materials.

Use Part 3 to learn what actions to include in your family disaster plan to prepare for and respond to events involving technological hazards. Learn how to use, store, and dispose of household chemicals in a manner that will reduce the potential for injury to people and the environment.

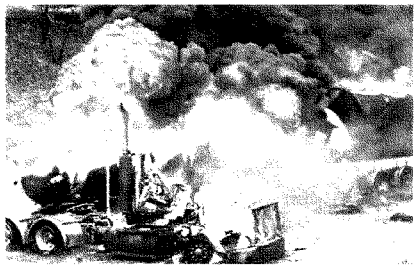
When you complete Part 3, you will be able to:

- Recognize important terms.
- Take protective measures for technological disasters.
- Know what actions to take if an event occurs.
- Identify resources for more information about technological hazards.

3.1 Hazardous Materials Incidents

Chemicals are found everywhere. They purify drinking water, increase crop production, and simplify household chores. But chemicals also can be hazardous to humans or the environment if used or released improperly. Hazards can occur during production, storage, transportation, use, or disposal. You and your community are at risk if a chemical is used unsafely or released in harmful amounts into the environment where you live, work, or play.

Chemical manufacturers are one source of hazardous materials, but there are many others, including service stations, hospitals, and hazardous materials waste sites.



Take Protective Measures

Before a Hazardous Materials Incident

Many communities have Local Emergency Planning Committees (LEPCs) whose responsibilities include collecting information about hazardous materials in the community and making this information available to the public upon request. The LEPCs also are tasked with developing an emergency plan to prepare for and respond to chemical emergencies in the community. Ways the public will be notified and actions the public must take in the event of a release are part of the plan. Contact the LEPCs to find out more about chemical hazards and what needs to be done to minimize the risk to individuals and the community from these materials. The local emergency management office can provide contact information on the LEPCs.

Review

See Section 1.3: Assemble a Disaster Supplies Kit

You should add the following supplies to your disaster supplies kit:

- Plastic sheeting.
- Duct tape.
- Scissors.

During a Hazardous Materials Incident

Listen to local radio or television stations for detailed information and instructions. Follow the instructions carefully. You should stay away from the area to minimize the risk of contamination. Remember that some toxic chemicals are odorless.

If you are:	Then:
Asked to evacuate	Do so immediately.
Caught Outside	Stay upstream, uphill, and upwind! In general, try to go at least one-half mile (usually 8-10 city blocks) from the danger area. Do not walk into or touch any spilled liquids, airborne mists, or condensed solid chemical deposits.
In a motor vehicle	Stop and seek shelter in a permanent building. If you must remain in your car, keep car windows and vents closed and shut off the air conditioner and heater.
Requested to stay indoors	• Close and lock all exterior doors and windows. Close vents, fireplace dampers, and as many interior doors as possible. • Turn off air conditioners and ventilation systems. In large buildings, set ventilation systems to 100 percent recirculation so that no outside air is drawn into the building. If this is not possible, ventilation systems should be turned off. • Go into the pre-selected shelter room. This room should be above ground and have the fewest openings to the outside. • Seal the room by covering each window, door, and vent using plastic sheeting and duct tape. • Use material to fill cracks and holes in the room, such as those around pipes.

Shelter Safety for Sealed Rooms

Ten square feet of floor space per person will provide sufficient air to prevent carbon dioxide build-up for up to five hours, assuming a normal breathing rate while resting.

However, local officials are unlikely to recommend the public shelter in a sealed room for more than 2-3 hours because the effectiveness of such sheltering diminishes with time as the contaminated outside air gradually seeps into the shelter. At this point, evacuation from the area is the better protective action to take.

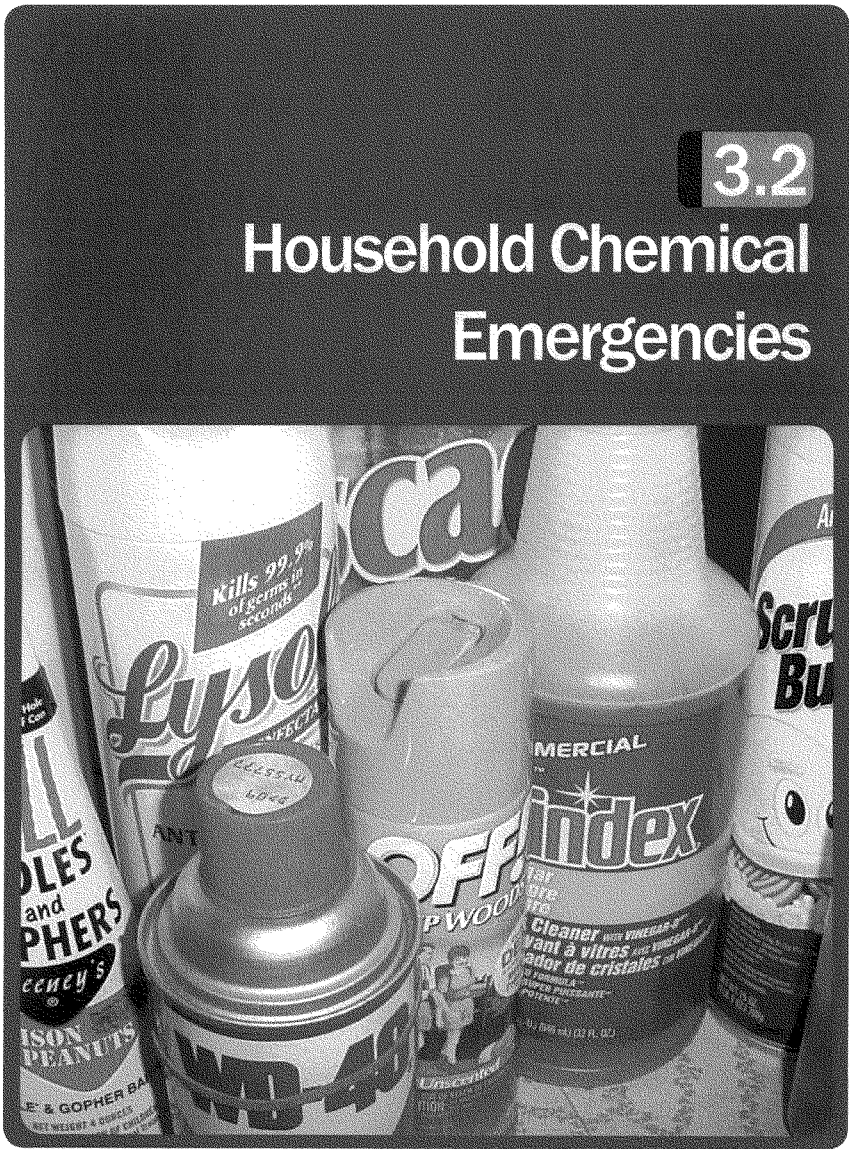
Also you should ventilate the shelter when the emergency has passed to avoid breathing contaminated air still inside the shelter.

After a Hazardous Materials Incident

The following are guidelines for the period following a hazardous materials incident:

- Return home only when authorities say it is safe. Open windows and vents and turn on fans to provide ventilation.
- Act quickly if you have come in to contact with or have been exposed to hazardous chemicals. Do the following:
  - Follow decontamination instructions from local authorities. You may be advised to take a thorough shower, or you may be advised to stay away from water and follow another procedure.

  - Seek medical treatment for unusual symptoms as soon as possible.
  - Place exposed clothing and shoes in tightly sealed containers. Do not allow them to contact other materials. Call local authorities to find out about proper disposal.
  - Advise everyone who comes in to contact with you that you may have been exposed to a toxic substance.
- Find out from local authorities how to clean up your land and property.
- Report any lingering vapors or other hazards to your local emergency services office.
- Follow the instructions for recovering from a disaster in Part 5.


3.2
Household Chemical Emergencies
Kills 99.9% of germs in seconds
Lysol
MERCIAL
Index
Cleaner
ANT

3.2 Household Chemical Emergencies

Nearly every household uses products containing hazardous materials or chemicals.

Cleaning Products

- Oven cleaners
- Drain cleaners
- Wood and metal cleaners and polishes
- Toilet cleaners
- Tub, tile, shower cleaners
- Bleach (laundry)
- Pool chemicals

Automotive Products

- Motor oil
- Fuel additives
- Carburetor and fuel injection cleaners
- Air conditioning refrigerants
- Starter fluids
- Automotive batteries
- Transmission and brake fluid
- Antifreeze

Lawn and Garden Products

- Herbicides
- Insecticides
- Fungicides/wood preservatives

Indoor Pesticides

- Ant sprays and baits
- Cockroach sprays and baits
- Flea repellents and shampoos
- Bug sprays
- Houseplant insecticides
- Moth repellents
- Mouse and rat poisons and baits

Workshop/Painting Supplies

- Adhesives and glues
- Furniture strippers
- Oil- or enamel-based paint
- Stains and finishes
- Paint thinners and turpentine
- Paint strippers and removers
- Photographic chemicals
- Fixatives and other solvents

Miscellaneous

- Batteries
- Mercury thermostats or thermometers
- Fluorescent light bulbs
- Driveway sealer

Other Flammable Products

- Propane tanks and other compressed gas cylinders
- Kerosene
- Home heating oil
- Diesel fuel
- Gas/oil mix
- Lighter fluid

Although the risk of a chemical accident is slight, knowing how to handle these products and how to react during an emergency can reduce the risk of injury.

Take Protective Measures

Before a Household Chemical Emergency

The following are guidelines for buying and storing hazardous household chemicals safely:

- Buy only as much of a chemical as you think you will use. Leftover material can be shared with neighbors or donated to a business, charity, or government agency. For example, excess pesticide could be offered to a greenhouse or garden center, and theater groups often need surplus paint. Some communities have organized waste exchanges where household hazardous chemicals and waste can be swapped or given away.
- Keep products containing hazardous materials in their original containers and never remove the labels unless the container is corroding. Corroding containers should be repackaged and clearly labeled.
- Never store hazardous products in food containers.
- Never mix household hazardous chemicals or waste with other products. Incompatibles, such as chlorine bleach and ammonia, may react, ignite, or explode.

Take the following precautions to prevent and respond to accidents:

- Follow the manufacturer's instructors for the proper use of the household chemical.
- Never smoke while using household chemicals.
- Never use hair spray, cleaning solutions, paint products, or pesticides near an open flame (e.g., pilot light, lighted candle, fireplace, wood burning stove, etc.) Although you may not be able to see or smell them, vapor particles in the air could catch fire or explode.

- Clean up any chemical spill immediately. Use rags to clean up the spill. Wear gloves and eye protection. Allow the fumes in the rags to evaporate outdoors, then dispose of the rags by wrapping them in a newspaper and placing them in a sealed plastic bag in your trash can.
- Dispose of hazardous materials correctly. Take household hazardous waste to a local collection program. Check with your county or state environmental or solid waste agency to learn if there is a household hazardous waste collection program in your area.

Learn to recognize the symptoms of toxic poisoning, which are as follows:

- Difficulty breathing.
- Irritation of the eyes, skin, throat, or respiratory tract.
- Changes in skin color.
- Headache or blurred vision.
- Dizziness.
- Clumsiness or lack of coordination.
- Cramps or diarrhea.

Be prepared to seek medical assistance:

- Post the number of the emergency medical services and the poison control center by all telephones. In an emergency situation, you may not have time to look up critical phone numbers. The national poison control number is (800)222-1222.

During a Household Chemical Emergency

If there is a danger of fire or explosion:

- Get out of the residence immediately. Do not waste time collecting items or calling the fire department when you are in danger. Call the fire department from outside (a cellular phone or a neighbor's phone) once you are safely away from danger.
- Stay upwind and away from the residence to avoid breathing toxic fumes.

If someone has been exposed to a household chemical:

- Find any containers of the substance that are readily available in order to provide requested information. Call emergency medical services.
- Follow the emergency operator or dispatcher's first aid instructions carefully. The first aid advice found on containers may be out of date or inappropriate. Do not give anything by mouth unless advised to do so by a medical professional.

Discard clothing that may have been contaminated. Some chemicals may not wash out completely.

Checking Your Home

There are probably many hazardous materials throughout your home. Take a tour of your home to see where these materials are located. Use the list of common hazardous household items presented earlier to guide you in your hunt. Once you have located a product, check the label and take the necessary steps to ensure that you are using, storing, and disposing of the material according to the manufacturer's directions. It is critical to store household chemicals in places where children cannot access them. Remember that products such as aerosol cans of hair spray and deodorant, nail polish and nail polish remover, toilet bowl cleaners, and furniture polishes all fall into the category of hazardous materials.

For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

FEMA Publications

Household Hazardous Materials: A Guide for Citizens. IS 55. An independent study resource for parents and teachers. Web-based safety program focused on reducing the number of deaths and injuries in the home. Available online at http://training.fema.gov/emiweb/is/is55.asp

Chemical Emergencies. A pamphlet promoting awareness of chemical hazards in the home, how to prevent them, and what to do if exposed. Available online at www.fema.gov/pdf/rrr/talkdiz/chemical.pdf

Backgrounder: Hazardous Materials. 0.511. Information sheet available online at www.fema.gov/hazards/hazardousmaterials/hazmat.shtm

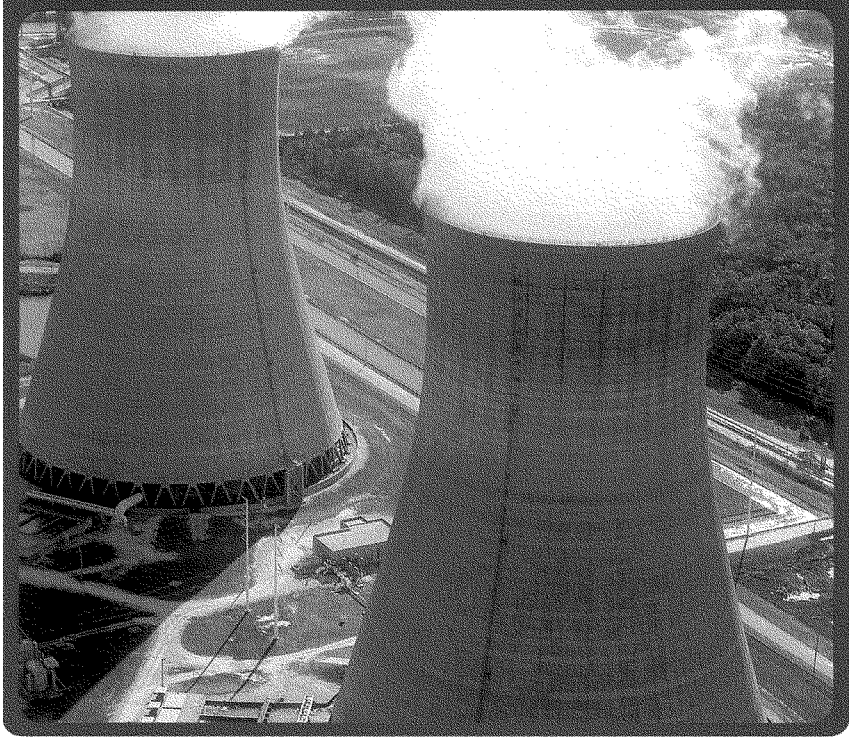
USFA: Factsheet: Baby-sitters Make the Right Call to EMS. 0510. Available online at www.usfa.fema.gov/public/factsheets/mtrc.shtm

Other Publications

American Red Cross

Chemical Emergencies. Extensive document describing the hazards of household chemicals and what to do in an emergency. Available online at www.redcross.org/services/disaster/0,1082,0_581_,00.html

3.3 Nuclear Power Plants



3.3 Nulear Power Plants

Nuclear power plants use the heat generated from nuclear fission in a contained environment to convert water to steam, which powers generators to produce electricity. Nuclear power plants operate in most states in the country and produce about 20 percent of the nation's power. Nearly 3 million Americans live within 10 miles of an operating nuclear power plant.

Although the construction and operation of these facilities are closely monitored and regulated by the Nuclear Regulatory Commission (NRC), accidents are possible. An accident could result in dangerous levels of radiation that could affect the health and safety of the public living near the nuclear power plant.

Local and state governments, federal agencies, and the electric utilities have emergency response plans in the event of a nuclear power plant incident. The plans define two "emergency planning zones." One zone covers an area within a 10-mile radius of the plant, where it is possible that people could be harmed by direct radiation exposure. The second zone covers a broader area, usually up to a 50-mile radius from the plant, where radioactive materials could contaminate water supplies, food crops, and livestock.

The potential danger from an accident at a nuclear power plant is exposure to radiation. This exposure could come from the release of radioactive material from the plant into the environment, usually characterized by a plume (cloud-like formation) of radioactive gases and particles. The major hazards to people in the vicinity of the plume are radiation exposure to the body from the cloud and particles deposited on the ground, inhalation of radioactive materials, and ingestion of radioactive materials.

Radioactive materials are composed of atoms that are unstable. An unstable atom gives off its excess energy until it becomes stable. The energy emitted is radiation. Each of us is exposed to radiation daily from natural sources, including the Sun and the Earth. Small traces of radiation are present in food and water. Radiation also is released from man-made sources such as X-ray machines, television sets, and microwave ovens. Radiation has a cumulative effect. The longer a person is exposed to radiation, the greater the effect. A high exposure to radiation can cause serious illness or death.

Minimizing Exposure to Radiation

- **Distance** - The more distance between you and the source of the radiation, the better. This could be evacuation or remaining indoors to minimize exposure.
- **Shielding** - The more heavy, dense material between you and the source of the radiation, the better.
- **Time** - Most radioactivity loses its strength fairly quickly.

If an accident at a nuclear power plant were to release radiation in your area, local authorities would activate warning sirens or another approved alert method. They also would instruct you through the Emergency Alert System (EAS) on local television and radio stations on how to protect yourself.

Know the Terms

Familiarize yourself with these terms to help identify a nuclear power plant emergency:

Notification of Unusual Event
A small problem has occurred at the plant. No radiation leak is expected. No action on your part will be necessary.

Alert
A small problem has occurred, and small amounts of radiation could leak inside the plant. This will not affect you and no action is required.

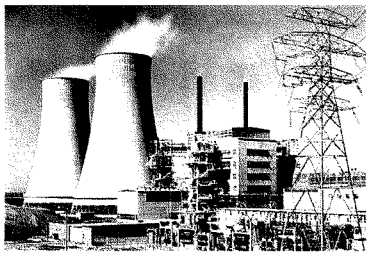
Site Area Emergency
Area sirens may be sounded. Listen to your radio or television for safety information.

General Emergency
Radiation could leak outside the plant and off the plant site. The sirens will sound. Tune to your local radio or television station for reports. Be prepared to follow instructions promptly.

Take Protective Measures

Before a Nuclear Power Plant Emergency

Obtain public emergency information materials from the power company that operates your local nuclear power plant or your local emergency services office. If you live within 10 miles of the power plant, you should receive these materials yearly from the power company or your state or local government.



During a Nuclear Power Plant Emergency

The following are guidelines for what you should do if a nuclear power plant emergency occurs. Keep a battery-powered radio with you at all times and listen to the radio for specific instructions. Close and lock doors and windows.

If you are told to evacuate...	*If you are advised to remain indoors...*
• Keep car windows and vents closed; use re-circulating air.	• Turn off the air conditioner, ventilation fans, furnace, and other air intakes. • Go to a basement or other underground area, if possible. • Do not use the telephone unless absolutely necessary.

If you expect you have been exposed to nuclear radiation:

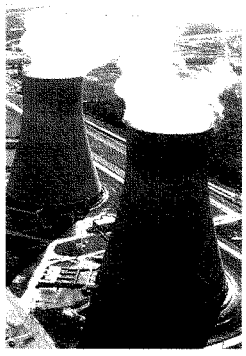
- Change clothes and shoes.
- Put exposed clothing in a plastic bag.
- Seal the bag and place it out of the way.
- Take a thorough shower.

Keep food in covered containers or in the refrigerator. Food not previously covered should be washed before being put in to containers.

After a Nuclear Power Plant Emergency

Seek medical treatment for any unusual symptoms, such as nausea, that may be related to radiation exposure.

Follow the instructions for recovering from a disaster in Part 5.



Technological Hazards Knowledge Check

Answer the following questions. Check your responses with the answer key below.

1. What are some things you can do to reduce the threat from hazardous materials in your home?

2. What should you do if you are caught at the scene of a hazardous materials incident?

3. What is the telephone number for the National Poison Control Center?

4. What are three ways to minimize radiation exposure?

5. Are there special warning requirements for nuclear power plants? If so, what are they?

6. What does it mean when a nuclear power plant has issued a general emergency? What actions should you take?

7. If you are at home and instructed to shelter-in-place because of a chemical release, where will you go?

8. If you are in a car and unable to seek shelter in a building and a chemical release occurs, you should?

9. Who can you contact to find out about hazardous materials stored in your community?

10. What are some common placess hazardous materials may be present in the community?

Answers:

1. a. Learn to identify hazardous materials.
   b. Follow manufacture's instructions for storage, use, and disposal.
   c. Never store hazardous products in food containers.
   d. Keep products in original containers unless the container is corroding.
   e. Never mix household hazardous chemicals or waste with other products.
   f. Take household hazardous waste to a local collection program.
   g. Never smoke while using household chemicals.
   h. Clean up spills immediately with rags.
   i. Buy only as much of a chemical as you think you will use.

2. a. Do not walk into or touch any spilled liquids, airborne mists, or condensed solid chemical deposits.
   b. Stay upstream, uphill, and upwind! In general, try to go at least one-half mile (usually 8-10 city blocks) from the danger area.

3. (800)222-1222

4. Distance, shielding, and time.

5. Yes. Nuclear power plants are required to install sirens or other approved warning systems.

6. Radiation could leak outside the plant and off the plant site. The sirens will sound. Tune to local radio or television station for reports. Be prepared to follow instructions promptly.

7. An above ground room with the fewest exterior doors and windows.

8. Keep car windows and vents closed and shut off the air conditioner or heater.

9. Local Emergency Planning Committee (LEPC). The local emergency management office can provide contact information for the LEPCs.

10. Agricultural operations and farms, auto service stations and junkyards, chemical manufacturing and storage facilities, construction sites, dry cleaners, electronics manufactures, paint shops, hospitals, hazardous materials waste sites, and transportation routes.

4 Terrorism

Throughout human history, there have been many threats to the security of nations. These threats have brought about large-scale losses of life, the destruction of property, widespread illness and injury, the displacement of large numbers of people, and devastating economic loss.

Recent technological advances and ongoing international political unrest are components of the increased risk to national security.

Use Part 4 to learn what actions to include in your family disaster plan to prepare for and respond to terrorist threats.

When you complete Part 4, you will be able to:

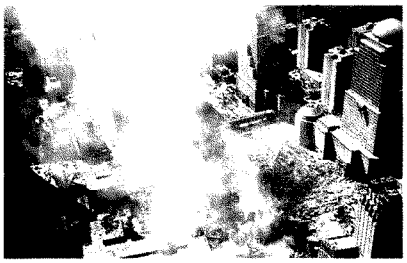
- Recognize important terms.
- Take protective measures for terrorist threats.
- Know what actions to take if an event occurs.
- Identify resources for more information about terrorist threats.

4.1 General Information about Terrorism

4.1 General Info about Terrorism

Terrorism is the use of force or violence against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion, or ransom. Terrorists often use threats to:

- Create fear among the public.
- Try to convince citizens that their government is powerless to prevent terrorism.
- Get immediate publicity for their causes.



Acts of terrorism include threats of terrorism; assassinations; kidnappings; hijackings; bomb scares and bombings; cyber attacks (computer-based); and the use of chemical, biological, nuclear and radiological weapons.

High-risk targets for acts of terrorism include military and civilian government facilities, international airports, large cities, and high-profile landmarks. Terrorists might also target large public gatherings, water and food supplies, utilities, and corporate centers. Further, terrorists are capable of spreading fear by sending explosives or chemical and biological agents through the mail.

Within the immediate area of a terrorist event, you would need to rely on police, fire, and other officials for instructions. However, you can prepare in much the same way you would prepare for other crisis events.

The following are general guidelines:

- Be aware of your surroundings.
- Move or leave if you feel uncomfortable or if something does not seem right.
- Take precautions when traveling. Be aware of conspicuous or unusual behavior. Do not accept packages from strangers. Do not leave luggage unattended. You should promptly report unusual behavior, suspicious or unattended packages, and strange devices to the police or security personnel.
- Learn where emergency exits are located in buildings you frequent. Plan how to get out in the event of an emergency.
- Be prepared to do without services you normally depend on—electricity, telephone, natural gas, gasoline pumps, cash registers, ATMs, and Internet transactions.

- Work with building owners to ensure the following items are located on each floor of the building:
  - Portable, battery-operated radio and extra batteries.
  - Several flashlights and extra batteries.
  - First aid kit and manual.
  - Hard hats and dust masks.
  - Fluorescent tape to rope off dangerous areas.

4.2 Explosions

Terrorists have frequently used explosive devices as one of their most common weapons. Terrorists do not have to look far to find out how to make explosive devices; the information is readily available in books and other information sources. The materials needed for an explosive device can be found in many places including variety, hardware, and auto supply stores. Explosive devices are highly portable using vehicles and humans as a means of transport. They are easily detonated from remote locations or by suicide bombers.

Conventional bombs have been used to damage and destroy financial, political, social, and religious institutions. Attacks have occurred in public places and on city streets with thousands of people around the world injured and killed.

Parcels that should make you suspicious:

- Are unexpected or from someone unfamiliar to you.
- Have no return address, or have one that can't be verified as legitimate.
- Are marked with restrictive endorsements such as "Personal," "Confidential," or "Do not X-ray."
- Have protruding wires or aluminum foil, strange odors, or stains.
- Show a city or state in the postmark that doesn't match the return address.
- Are of unusual weight given their size, or are lopsided or oddly shaped.
- Are marked with threatening language.
- Have inappropriate or unusual labeling.
- Have excessive postage or packaging material, such as masking tape and string.
- Have misspellings of common words.
- Are addressed to someone no longer with your organization or are otherwise outdated.
- Have incorrect titles or titles without a name.
- Are not addressed to a specific person.
- Have hand-written or poorly typed addressess.

Take Protective Measures

If you receive a telephoned bomb threat, you should do the following:

- Get as much information from the caller as possible.
- Keep the caller on the line and record everything that is said.
- Notify the police and the building management.

During an Explosion

If there is an explosion, you should:

- Get under a sturdy table or desk if things are falling around you. When they stop falling, leave quickly, watching for obviously weakened floors and stairways. As you exit from the building, be especially watchful of falling debris.
- Leave the building as quickly as possible. Do not stop to retrieve personal possessions or make phone calls.
- Do not use elevators.

Review

Safety guidelines for escaping fires in Section 2.11

Once you are out:

- Do not stand in front of windows, glass doors, or other potentially hazardous areas.
- Move away from sidewalks or streets to be used by emergency officials or others still exiting the building.

If you are trapped in debris:

- If possible, use a flashlight to signal your location to rescuers.
- Avoid unnecessary movement so you don't kick up dust.
- Cover your nose and mouth with anything you have on hand. (Dense-weave cotton material can act as a good filter. Try to breathe through the material.)
- Tap on a pipe or wall so rescuers can hear where you are.
- If possible, use a whistle to signal rescuers.
- Shout only as a last resort. Shouting can cause a person to inhale dangerous amounts of dust.

After an Explosion

Follow the instructions for recovering from a disaster in Part 5.

For More Information

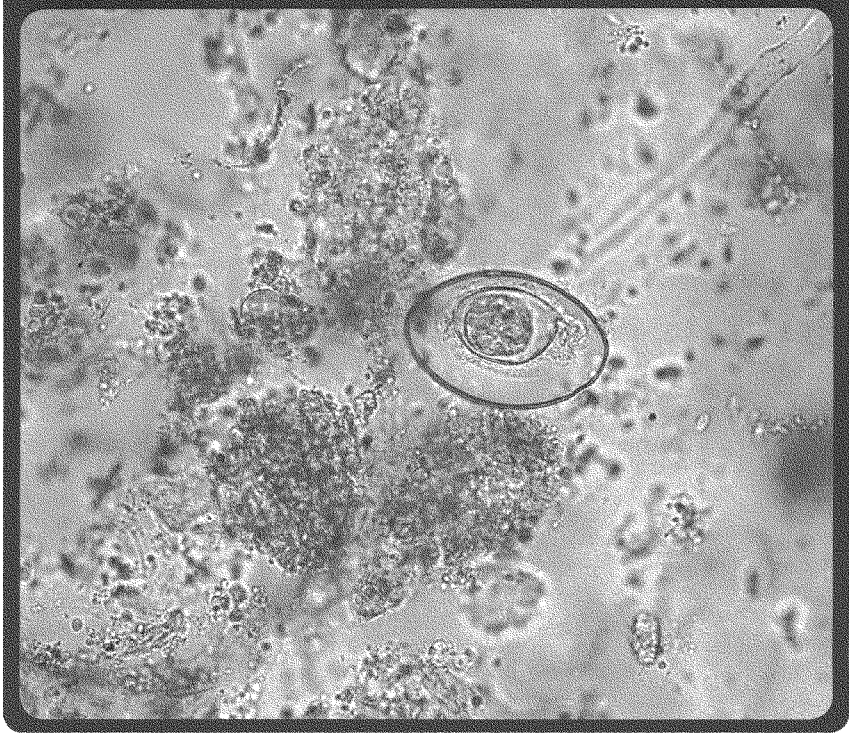
If you require more information about any of these topics, the following resource may be helpful.

Publications

American Red Cross:

Terrorism, Preparing for the Unexpected. Document providing preparation guidelines for a terrorist attack or similar emergency. Available online at www.redcross.org/services/disaster/0,1082,0_589_,00.html

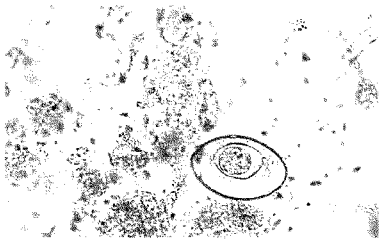
4.3 Biological Threats



Biological agents are organisms or toxins that can kill or incapacitate people, livestock, and crops. The three basic groups of biological agents that would likely be used as weapons are bacteria, viruses, and toxins. Most biological agents are difficult to grow and maintain. Many break down quickly when exposed to sunlight and other environmental factors, while others, such as anthrax spores, are very long lived. Biological agents can be dispersed by spraying them into the air, by infecting animals that carry the disease to humans, and by contaminating food and water. Delivery methods include:

- **Aerosols**—biological agents are dispersed into the air, forming a fine mist that may drift for miles. Inhaling the agent may cause disease in people or animals.
- **Animals**—some diseases are spread by insects and animals, such as fleas, mice, flies, mosquitoes, and livestock.
- **Food and water contamination**—some pathogenic organisms and toxins may persist in food and water supplies. Most microbes can be killed, and toxins deactivated, by cooking food and boiling water. Most microbes are killed by boiling water for one minute, but some require longer. Follow official instructions.
- **Person-to-person**—spread of a few infectious agents is also possible. Humans have been the source of infection for smallpox, plague, and the Lassa viruses.

Specific information on biological agents is available at the Centers for Disease Control and Prevention's Web site, www.bt.cdc.gov.



Take Protective Measures

Before a Biological Attack

The following are guidelines for what you should do to prepare for a biological threat:

- Check with your doctor to ensure all required or suggested immunizations are up to date. Children and older adults are particularly vulnerable to biological agents.

- Consider installing a High Efficiency Particulate Air (HEPA) filter in your furnace return duct. These filters remove particles in the 0.3 to 10 micron range and will filter out most biological agents that may enter your house. If you do not have a central heating or cooling system, a stand-alone portable HEPA filter can be used.

Review
Shelter
in Section 1.4

Filtration in Buildings

Building owners and managers should determine the type and level of filtration in their structures and the level of protection it provides against biological agents. The National Institute of Occupational Safety and Health (NIOSH) provides technical guidance on this topic in their publication *Guidance for Filtration and Air-Cleaning Systems to Protect Building Environments from Airborne Chemical, Biological, or Radiological Attacks*. To obtain a copy, call 1(800)35NIOSH or visit www.cdc.gov/NIOSH/publist.html and request or download NIOSH Publication 2003-136.

During a Biological Attack

In the event of a biological attack, public health officials may not immediately be able to provide information on what you should do. It will take time to determine what the illness is, how it should be treated, and who is in danger. Watch television, listen to radio, or check the Internet for official news and information including signs and symptoms of the disease, areas in danger, if medications or vaccinations are being distributed, and where you should seek medical attention if you become ill.

The first evidence of an attack may be when you notice symptoms of the disease caused by exposure to an agent. Be suspicious of any symptoms you notice, but do not assume that any illness is a result of the attack. Use common sense and practice good hygiene.

If you become aware of an unusual and suspicious substance nearby:

- Move away quickly.
- Wash with soap and water.
- Contact authorities.
- Listen to the media for official instructions.
- Seek medical attention if you become sick.

If you are exposed to a biological agent:

- Remove and bag your clothes and personal items. Follow official instructions for disposal of contaminated items.
- Wash yourself with soap and water and put on clean clothes.
- Seek medical assistance. You may be advised to stay away from others or even quarantined.

Using HEPA Filters

HEPA filters are useful in biological attacks. If you have a central heating and cooling system in your home with a HEPA filter, leave it on if it is running or turn the fan on if it is not running. Moving the air in the house through the filter will help remove the agents from the air. If you have a portable HEPA filter, take it with you to the internal room where you are seeking shelter and turn it on.

If you are in an apartment or office building that has a modern, central heating and cooling system, the system's filtration should provide a relatively safe level of protection from outside biological contaminants.

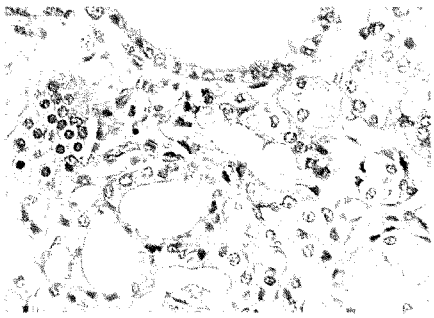
HEPA filters will not filter chemical agents.

After a Biological Attack

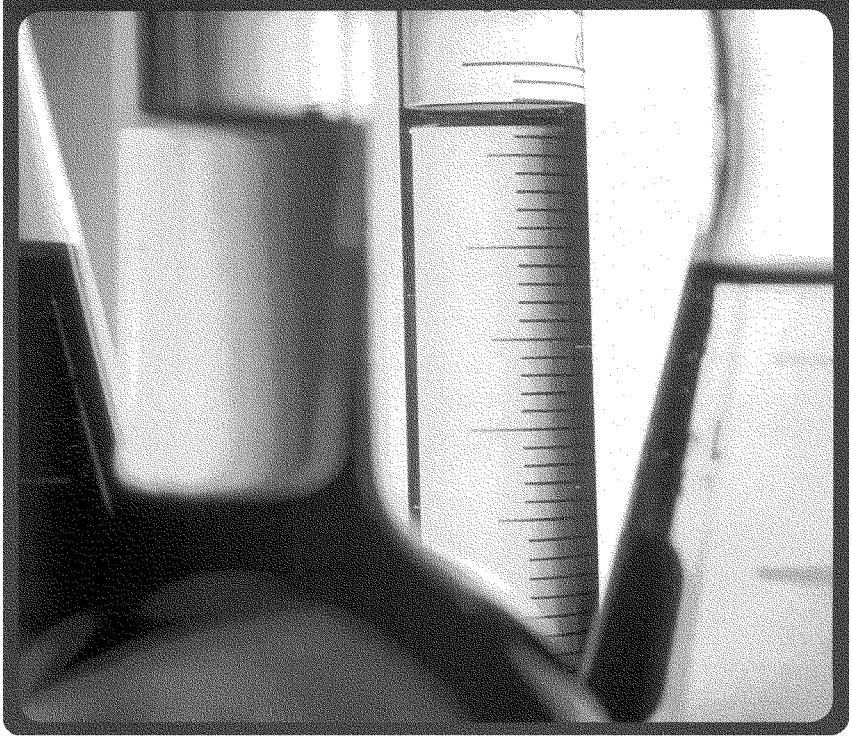
Review

Getting Informed in Section 1.1

In some situations, such as the case of the anthrax letters sent in 2001, people may be alerted to potential exposure. If this is the case, pay close attention to all official warnings and instructions on how to proceed. The delivery of medical services for a biological event may be handled differently to respond to increased demand. The basic public health procedures and medical protocols for handling exposure to biological agents are the same as for any infectious disease. It is important for you to pay attention to official instructions via radio, television, and emergency alert systems.



4.4 Chemical Threats



Chemical agents are poisonous vapors, aerosols, liquids, and solids that have toxic effects on people, animals, or plants. They can be released by bombs or sprayed from aircraft, boats, and vehicles. They can be used as a liquid to create a hazard to people and the environment. Some chemical agents may be odorless and tasteless. They can have an immediate effect (a few seconds to a few minutes) or a delayed effect (2 to 48 hours). While potentially lethal, chemical agents are difficult to deliver in lethal concentrations. Outdoors, the agents often dissipate rapidly. Chemical agents also are difficult to produce.

A chemical attack could come without warning. Signs of a chemical release include people having difficulty breathing; experiencing eye irritation; losing coordination; becoming nauseated; or having a burning sensation in the nose, throat, and lungs. Also, the presence of many dead insects or birds may indicate a chemical agent release.

Take Protective Measures

Before a Chemical Attack

The following are guidelines for what you should do to prepare for a chemical threat:

- Check your disaster supplies kit to make sure it includes:
  - A roll of duct tape and scissors.
  - Plastic for doors, windows, and vents for the room in which you will shelter in place. To save critical time during an emergency, pre-measure and cut the plastic sheeting for each opening.
- Choose an internal room to shelter, preferably one without windows and on the highest level.

During a Chemical Attack

The following are guidelines for what you should do in a chemical attack.

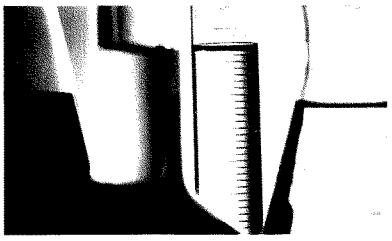
If you are instructed to remain in your home or office building, you should:

- Close doors and windows and turn off all ventilation, including furnaces, air conditioners, vents, and fans.
- Seek shelter in an internal room and take your disaster supplies kit.
- Seal the room with duct tape and plastic sheeting.
- Listen to your radio for instructions from authorities.

Shelter safety for sealed rooms in Section 3.1

If you are caught in or near a contaminated area, you should:

- Move away immediately in a direction upwind of the source.
- Find shelter as quickly as possible.



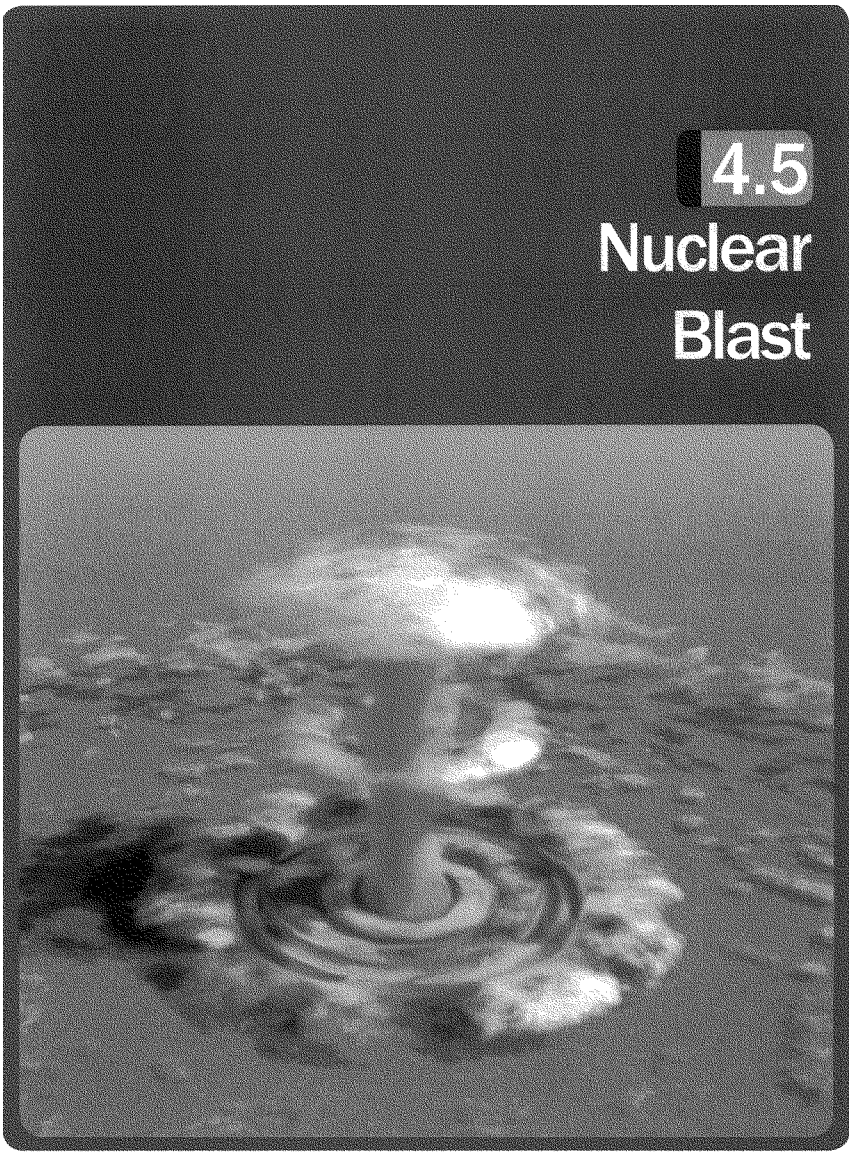
After a Chemical Attack

Decontamination is needed within minutes of exposure to minimize health consequences. Do not leave the safety of a shelter to go outdoors to help others until authorities announce it is safe to do so.

A person affected by a chemical agent requires immediate medical attention from a professional. If medical help is not immediately available, decontaminate yourself and assist in decontaminating others.

Decontamination guidelines are as follows:

- Use extreme caution when helping others who have been exposed to chemical agents.
- Remove all clothing and other items in contact with the body. Contaminated clothing normally removed over the head should be cut off to avoid contact with the eyes, nose, and mouth. Put contaminated clothing and items into a plastic bag and seal it. Decontaminate hands using soap and water. Remove eyeglasses or contact lenses. Put glasses in a pan of household bleach to decontaminate them, and then rinse and dry.
- Flush eyes with water.
- Gently wash face and hair with soap and water before thoroughly rinsing with water.
- Decontaminate other body areas likely to have been contaminated. Blot (do not swab or scrape) with a cloth soaked in soapy water and rinse with clear water.
- Change into uncontaminated clothes. Clothing stored in drawers or closets is likely to be uncontaminated.
- Proceed to a medical facility for screening and professional treatment.


4.5
Nuclear
Blast

A nuclear blast is an explosion with intense light and heat, a damaging pressure wave, and widespread radioactive material that can contaminate the air, water, and ground surfaces for miles around. A nuclear device can range from a weapon carried by an intercontinental missile launched by a hostile nation or terrorist organization, to a small portable nuclear devise transported by an individual. All nuclear devices cause deadly effects when exploded, including blinding light, intense heat (thermal radiation), initial nuclear radiation, blast, fires started by the heat pulse, and secondary fires caused by the destruction.

Hazards of Nuclear Devices

The extent, nature, and arrival time of these hazards are difficult to predict. The geographical dispersion of hazard effects will be defined by the following:

- Size of the device. A more powerful bomb will produce more distant effects.
- Height above the ground the device was detonated. This will determine the extent of blast effects.
- Nature of the surface beneath the explosion. Some materials are more likely to become radioactive and airborne than others. Flat areas are more susceptible to blast effects.
- Existing meteorological conditions. Wind speed and direction will affect arrival time of fallout; precipitation may wash fallout from the atmosphere.

Radioactive Fallout

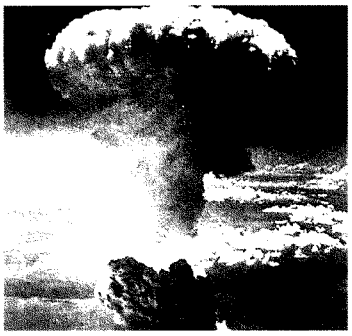
Even if individuals are not close enough to the nuclear blast to be affected by the direct impacts, they may be affected by radioactive fallout. Any nuclear blast results in some fallout. Blasts that occur near the earth's surface create much greater amounts of fallout than blasts that occur at higher altitudes. This is because the tremendous heat produced from a nuclear blast causes an up-draft of air that forms the familiar mushroom cloud. When a blast occurs near the earth's surface, millions of vaporized dirt particles also are drawn into the cloud. As the heat diminishes, radioactive materials that have vaporized condense on the particles and fall back to Earth. The phenomenon is called radioactive fallout. This fallout material decays over a long period of time, and is the main source of residual nuclear radiation.

Fallout from a nuclear explosion may be carried by wind currents for hundreds of miles if the right conditions exist. Effects from even a small portable device exploded at ground level can be potentially deadly.

Nuclear radiation cannot be seen, smelled, or otherwise detected by normal senses. Radiation can only be detected by radiation monitoring devices. This makes radiological emergencies different from other types of emergencies, such as floods or hurricanes. Monitoring can project the fallout arrival times, which will be announced through official warning channels. However, any increase in surface build-up of gritty dust and dirt should be a warning for taking protective measures.

Electromagnetic Pulse

In addition to other effects, a nuclear weapon detonated in or above the earth's atmosphere can create an electromagnetic pulse (EMP), a high-density electrical field. An EMP acts like a stroke of lightning but is stronger, faster, and shorter. An EMP can seriously damage electronic devices connected to power sources or antennas. This includes communication systems, computers, electrical appliances, and automobile or aircraft ignition systems. The damage could range from a minor interruption to actual burnout of components. Most electronic equipment within 1,000 miles of a high-altitude nuclear detonation could be affected. Battery-powered radios with short antennas generally would not be affected. Although an EMP is unlikely to harm most people, it could harm those with pacemakers or other implanted electronic devices.



Protection from a Nuclear Blast

The danger of a massive strategic nuclear attack on the United States is predicted by experts to be less likely today. However, terrorism, by nature, is unpredictable.

If there were threat of an attack, people living near potential targets could be advised to evacuate or they could decide on their own to evacuate to an area not considered a likely target. Protection from radioactive fallout would require taking shelter in an underground area or in the middle of a large building.

In general, potential targets include:

- Strategic missile sites and military bases.
- Centers of government such as Washington, DC, and state capitals.
- Important transportation and communication centers.
- Manufacturing, industrial, technology, and financial centers.
- Petroleum refineries, electrical power plants, and chemical plants.
- Major ports and airfields.

The three factors for protecting oneself from radiation and fallout are distance, shielding, and time.

- **Distance** — the more distance between you and the fallout particles, the better. An underground area such as a home or office building basement offers more protection than the first floor of a building. A floor near the middle of a high-rise may be better, depending on what is nearby at that level on which significant fallout particles would collect. Flat roofs collect fallout particles so the top floor is not a good choice, nor is a floor adjacent to a neighboring flat roof.
- **Shielding** — the heavier and denser the materials—thick walls, concrete, bricks, books and earth—between you and the fallout particles, the better.
- **Time** — fallout radiation loses its intensity fairly rapidly. In time, you will be able to leave the fallout shelter. Radioactive fallout poses the greatest threat to people during the first two weeks, by which time it has declined to about 1 percent of its initial radiation level.

Remember that any protection, however temporary, is better than none at all, and the more shielding, distance, and time you can take advantage of, the better.

Take Protective Measures

Before a Nuclear Blast

Update your supplies; see Section 1.2

To prepare for a nuclear blast, you should do the following:

- Find out from officials if any public buildings in your community have been designated as fallout shelters. If none have been designated, make your own list of potential shelters near your home, workplace, and school. These places would include basements or the windowless center area of middle floors in high-rise buildings, as well as subways and tunnels.
- If you live in an apartment building or high-rise, talk to the manager about the safest place in the building for sheltering and about providing for building occupants until it is safe to go out.
- During periods of increased threat increase your disaster supplies to be adequate for up to two weeks.

Taking shelter during a nuclear blast is absolutely necessary. There are two kinds of shelters—blast and fallout. The following describes the two kinds of shelters:

- **Blast shelters** are specifically constructed to offer some protection against blast pressure, initial radiation, heat, and fire. But even a blast shelter cannot withstand a direct hit from a nuclear explosion.
- **Fallout shelters** do not need to be specially constructed for protecting against fallout. They can be any protected space, provided that the walls and roof are thick and dense enough to absorb the radiation given off by fallout particles.

Review

Shelter requirements in Section 1.4

During a Nuclear Blast

The following are guidelines for what to do in the event of a nuclear explosion.

If an attack warning is issued:

- Take cover as quickly as you can, below ground if possible, and stay there until instructed to do otherwise.
- Listen for official information and follow instructions.

If you are caught outside and unable to get inside immediately:

- Do not look at the flash or fireball—it can blind you.
- Take cover behind anything that might offer protection.
- Lie flat on the ground and cover your head. If the explosion is some distance away, it could take 30 seconds or more for the blast wave to hit.
- Take shelter as soon as you can, even if you are many miles from ground zero where the attack occurred—radioactive fallout can be carried by the winds for hundreds of miles. Remember the three protective factors: Distance, shielding, and time.

After a Nuclear Blast

Decay rates of the radioactive fallout are the same for any size nuclear device. However, the amount of fallout will vary based on the size of the device and its proximity to the ground. Therefore, it might be necessary for those in the areas with highest radiation levels to shelter for up to a month.

Review

Shelter requirements in Section 1.4

The heaviest fallout would be limited to the area at or downwind from the explosion, and 80 percent of the fallout would occur during the first 24 hours.

People in most of the areas that would be affected could be allowed to come out of shelter within a few days and, if necessary, evacuate to unaffected areas.

Returning to Your Home

Remember the following:

- Keep listening to the radio and television for news about what to do, where to go, and places to avoid.
- Stay away from damaged areas. Stay away from areas marked "radiation hazard" or "HAZMAT." Remember that radiation cannot be seen, smelled, or otherwise detected by human senses.

Follow the instructions for returning home in Part 5.

4.6 Radiological Dispersion Device (RDD)

Terrorist use of an RDD—often called "dirty nuke" or "dirty bomb"—is considered far more likely than use of a nuclear explosive device. An RDD combines a conventional explosive device—such as a bomb—with radioactive material. It is designed to scatter dangerous and sub-lethal amounts of radioactive material over a general area. Such RDDs appeal to terrorists because they require limited technical knowledge to build and deploy compared to a nuclear device. Also, the radioactive materials in RDDs are widely used in medicine, agriculture, industry, and research, and are easier to obtain than weapons grade uranium or plutonium.

The primary purpose of terrorist use of an RDD is to cause psychological fear and economic disruption. Some devices could cause fatalities from exposure to radioactive materials. Depending on the speed at which the area of the RDD detonation was evacuated or how successful people were at sheltering-in-place, the number of deaths and injuries from an RDD might not be substantially greater than from a conventional bomb explosion.

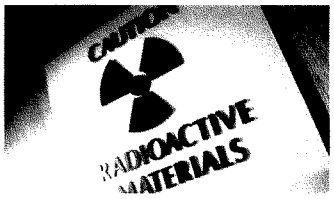
The size of the affected area and the level of destruction caused by an RDD would depend on the sophistication and size of the conventional bomb, the type of radioactive material used, the quality and quantity of the radioactive material, and the local meteorological conditions—primarily wind and precipitation. The area affected could be placed off-limits to the public for several months during clean-up efforts.

Take Protective Measures

Before an RDD Event

There is no way of knowing how much warning time there will be before an attack by terrorists using an RDD, so being prepared in advance and knowing what to do and when is important. Take the same protective measures you would for fallout resulting from a nuclear blast.

Review
Nuclear Blast
Section 4.5



During an RDD Event

While the explosive blast will be immediately obvious, the presence of radiation will not be known until trained personnel with specialized equipment are on the scene. Whether you are indoors or outdoors, home or at work, be extra cautious. It would be safer to assume radiological contamination has occurred—particularly in an urban setting or near other likely terrorist targets—and take the proper precautions. As with any radiation, you want to avoid or limit exposure. This is particularly true of inhaling radioactive dust that results from the explosion. As you seek shelter from any location (indoors or outdoors) and there is visual dust or other contaminants in the air, breathe though the cloth of your shirt or coat to limit your exposure. If you manage to avoid breathing radioactive dust, your proximity to the radioactive particles may still result in some radiation exposure.

If the explosion or radiological release occurs inside, get out immediately and seek safe shelter. Otherwise, if you are:

Outdoors	Indoors
• Seek shelter indoors immediately in the nearest undamaged building. • If appropriate shelter is not available, move as rapidly as is safe upwind and away from the location of the explosive blast. Then, seek appropriate shelter as soon as possible. • Listen for official instructions and follow directions.	• If you have time, turn off ventilation and heating systems, close windows, vents, fireplace dampers, exhaust fans, and clothes dryer vents. Retrieve your disaster supplies kit and a battery-powered radio and take them to your shelter room. • Seek shelter immediately, preferably underground or in an interior room of a building, placing as much distance and dense shielding as possible between you and the outdoors where the radioactive material may be. • Seal windows and external doors that do not fit snugly with duct tape to reduce infiltration of radioactive particles. Plastic sheeting will not provide shielding from radioactivity nor from blast effects of a nearby explosion. • Listen for official instructions and follow directions.

After an RDD Event

After finding safe shelter, those who may have been exposed to radioactive material should decontaminate themselves. To do this, remove and bag your clothing (and isolate the bag away from you and others), and shower thoroughly with soap and water. Seek medical attention after officials indicate it is safe to leave shelter.

Contamination from an RDD event could affect a wide area, depending on the amount of conventional explosives used, the quantity and type of radioactive material released, and meteorological conditions. Thus, radiation dissipation rates vary, but radiation from an RDD will likely take longer to dissipate due to a potentially larger localized concentration of radioactive material.

Follow these additional guidelines after an RDD event:

- Continue listening to your radio or watch the television for instructions from local officials, whether you have evacuated or sheltered-in-place.
- Do not return to or visit an RDD incident location for any reason.
- Follow the instructions for recovering from a disaster in Part 5.

Terrorism Knowledge Check

Answer the following questions. Check your responses with the answer key below.

1 What would you do, if you were at work and...

a. there was an explosion in the building?

b. you received a package in the mail that you considered suspicious?

c. you received a telephone call that was a bomb threat?

2 If caught outside during a nuclear blast, what should you do?

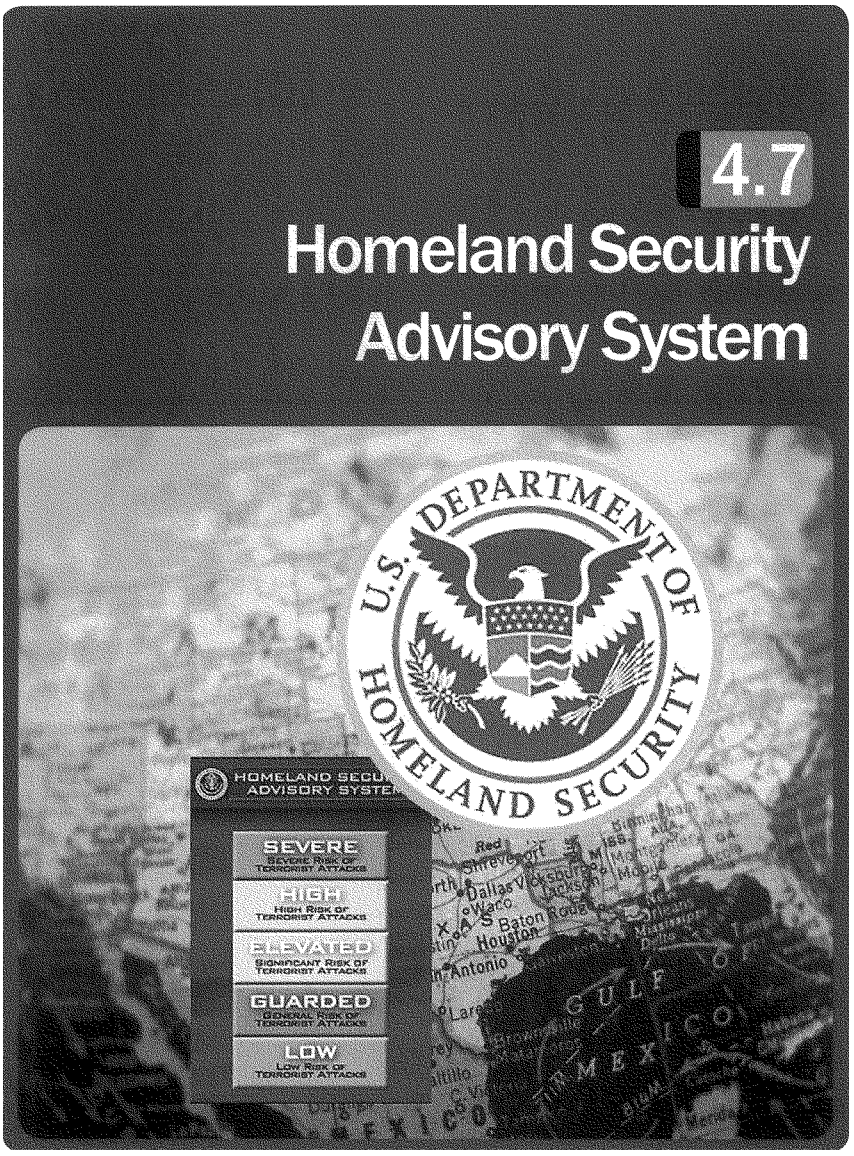
3 What are the three key factors for protection from nuclear blast and fallout?

4 If you take shelter in your own home, what kind of room would be safest during a chemical or biological attack?

5 In case of a chemical attack, what extra items should you have in your disaster supplies kit?

Answer Key

1. a. Shelter from falling debris under a desk and then follow evacuation procedures
   b. Clear the area and notify the police immediately
   c. Keep the caller on the line and record everything that was said
2. • Don't look at the flash
   • Take cover behind anything that offers protection
   • Lay flat on the ground
   • Cover your head
3. Distance, shielding, time
4. An interior room on the uppermost level, preferably without windows
5. Plastic sheeting, duct tape, and scissors.


4.7
Homeland Security
Advisory System
U.S. DEPARTMENT OF HOMELAND SECURITY
HOMELAND SECU
ADVISORY SYSTE
SEVERE
SEVERE RISK OF TERRORIST ATTACKS
HIGH
HIGH RISK OF TERRORIST ATTACKS
ELEVATED
SIGNIFICANT RISK OF TERRORIST ATTACKS
GUARDED
GENERAL RISK OF TERRORIST ATTACKS
LOW
LOW RISK OF TERRORIST ATTACKS
Houston
GULF
MEXICO

The Homeland Security Advisory System was designed to provide a national framework and comprehensive means to disseminate information regarding the risk of terrorist acts to the following:

- Federal, state, and local authorities
- The private sector
- The American people

This system provides warnings in the form of a set of graduated "threat conditions" that increase as the risk of the threat increases. Risk includes both the probability of an attack occurring and its potential gravity. Threat conditions may be assigned for the entire nation, or they may be set for a particular geographic area or industrial sector. At each threat condition, government entities and the private sector, including businesses and schools, would implement a corresponding set of "protective measures" to further reduce vulnerability or increase response capability during a period of heightened alert.

There are five threat conditions, each identified by a description and corresponding color. Assigned threat conditions will be reviewed at regular intervals to determine whether adjustments are warranted.

Threat Conditions and Associated Protective Measures

There is always a risk of a terrorist threat. Each threat condition assigns a level of alert appropriate to the increasing risk of terrorist attacks. Beneath each threat condition are some suggested protective measures that the government, the private sector, and the public can take.

In each case, as threat conditions escalate, protective measures are added to those already taken in lower threat conditions. The measures are cumulative.

Citizen Guidance on the Homeland Security Advisory System

Low Risk

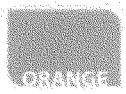
- Develop a family emergency plan. Share it with family and friends, and practice the plan. Visit www.Ready.gov for help creating a plan.
- Create an "Emergency Supply Kit" for your household.
- Be informed. Visit www.Ready.gov or obtain a copy of "Preparing Makes Sense, Get Ready Now" by calling 1-800-BE-READY.
- Know where to shelter and how to turn off utilities (power, gas, and water) to your home.
- Examine volunteer opportunities in your community, such as Citizen Corps, Volunteers in Police Service, Neighborhood Watch or others, and donate your time. Consider completing an American Red Cross first aid or CPR course , or Community Emergency Response Team (CERT) course .

Guarded Risk

- Complete recommended steps at level green.
- Review stored disaster supplies and replace items that are outdated.
- Be alert to suspicious activity and report it to proper authorities.

Elevated Risk

- Complete recommended steps at levels green and blue.
- Ensure disaster supplies are stocked and ready.
- Check telephone numbers in family emergency plan and update as necessary.
- Develop alternate routes to/from work or school and practice them.
- Continue to be alert for suspicious activity and report it to authorities.



High Risk

- Complete recommended steps at lower levels.
- Exercise caution when traveling, pay attention to travel advisories.
- Review your family emergency plan and make sure all family members know what to do.
- Be Patient. Expect some delays, baggage searches and restrictions at public buildings.
- Check on neighbors or others that might need assistance in an emergency.

Severe Risk

- Complete all recommended actions at lower levels.
- Listen to local emergency management officials.
- Stay tuned to TV or radio for current information/instructions.
- Be prepared to shelter or evacuate, as instructed.
- Expect traffic delays and restrictions.
- Provide volunteer services only as requested.
- Contact your school/business to determine status of work day.

*Developed with input from the American Red Cross.

Knowledge Check

1. By following the instructions in this guide, you should now have the following:
   - A family disaster plan that sets forth what you and your family need to do to prepare for and respond to all types of hazards.
   - A disaster supplies kit filled with items you would need to sustain you and your family for at least three days, maybe more.
   - Knowledge of your community warning systems and what you should do when these are activated.
   - An understanding of why evacuations are necessary and what you would need to do in the case of an evacuation.
   - Identification of where the safest shelters are for the various hazards.

Compare the above actions with the personal action guidelines for each of the threat levels. Determine how well you are prepared for each of the five levels.

2. What is the current threat level? _____

   Hint: To determine the current threat level, check your cable news networks or visit www.dhs.gov. Keep your family informed when changes in the threat level occur, and go over the personal actions you need to take.

For More Information

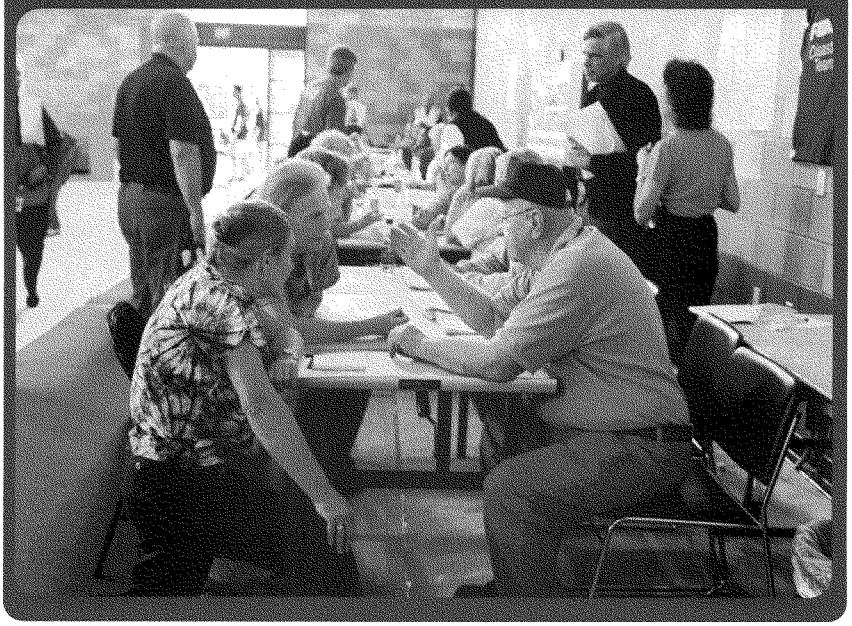
If you require more information about any of these topics, the following resource may be helpful.

Publications

American Red Cross

American Red Cross: Homeland Security Advisory System Recommendations for Individuals, Families, Neighborhoods, Schools, and Businesses. Explanation of preparedness activities for each population. Available online at www.redcross.org/services/disaster/beprepared/hsas.html

5 Recovering from Disaster



Health and Safety Guidelines

Recovering from a disaster is usually a gradual process. Safety is a primary issue, as are mental and physical well-being. If assistance is available, knowing how to access it makes the process faster and less stressful. This section offers some general advice on steps to take after disaster strikes in order to begin getting your home, your community, and your life back to normal.

Your first concern after a disaster is your family's health and safety. You need to consider possible safety issues and monitor family health and well-being.

Aiding the Injured

Check for injuries. Do not attempt to move seriously injured persons unless they are in immediate danger of death or further injury. If you must move an unconscious person, first stabilize the neck and back, then call for help immediately.

- If the victim is not breathing, carefully position the victim for artificial respiration, clear the airway, and commence mouth-to-mouth resuscitation.
- Maintain body temperature with blankets. Be sure the victim does not become overheated.
- Never try to feed liquids to an unconscious person.

Health

- Be aware of exhaustion. Don't try to do too much at once. Set priorities and pace yourself. Get enough rest.
- Drink plenty of clean water.
- Eat well.
- Wear sturdy work boots and gloves.
- Wash your hands thoroughly with soap and clean water often when working in debris.

Safety Issues

- Be aware of new safety issues created by the disaster. Watch for washed out roads, contaminated buildings, contaminated water, gas leaks, broken glass, damaged electrical wiring, and slippery floors.
- Inform local authorities about health and safety issues, including chemical spills, downed power lines, washed out roads, smoldering insulation, and dead animals.

Returning Home

Returning home can be both physically and mentally challenging. Above all, use caution.

General tips:

- Keep a battery-powered radio with you so you can listen for emergency updates and news reports.
- Use a battery-powered flash light to inspect a damaged home.
  Note: The flashlight should be turned on outside before entering—the battery may produce a spark that could ignite leaking gas, if present.
- Watch out for animals, especially poisonous snakes. Use a stick to poke through debris.
- Use the phone only to report life-threatening emergencies.
- Stay off the streets. If you must go out, watch for fallen objects; downed electrical wires; and weakened walls, bridges, roads, and sidewalks.

Before You Enter Your Yome

Walk carefully around the outside and check for loose power lines, gas leaks, and structural damage. If you have any doubts about safety, have your residence inspected by a qualified building inspector or structural engineer before entering.

Do not enter if:

- You smell gas.
- Floodwaters remain around the building.
- Your home was damaged by fire and the authorities have not declared it safe.

Going Inside Your Home

When you go inside your home, there are certain things you should and should not do. Enter the home carefully and check for damage. Be aware of loose boards and slippery floors. The following items are other things to check inside your home:

- **Natural gas.** If you smell gas or hear a hissing or blowing sound, open a window and leave immediately. Turn off the main gas valve from the outside, if you can. Call the gas company from a neighbor's residence. If you shut off the gas supply at the main valve, you will need a professional to turn it back on. Do not smoke or use oil, gas lanterns, candles, or torches for lighting inside a damaged home until you are sure there is no leaking gas or other flammable materials present.
- **Sparks, broken or frayed wires.** Check the electrical system unless you are wet, standing in water, or unsure of your safety. If possible, turn off the electricity at the main fuse box or circuit breaker. If the situation is unsafe, leave the building and call for help. Do not turn on the lights until you are sure they're safe to use. You may want to have an electrician inspect your wiring.
- **Roof, foundation, and chimney cracks.** If it looks like the building may collapse, leave immediately.
- **Appliances.** If appliances are wet, turn off the electricity at the main fuse box or circuit breaker. Then, unplug appliances and let them dry out. Have appliances checked by a professional before using them again. Also, have the electrical system checked by an electrician before turning the power back on.
- **Water and sewage systems.** If pipes are damaged, turn off the main water valve. Check with local authorities before using any water; the water could be contaminated. Pump out wells and have the water tested by authorities before drinking. Do not flush toilets until you know that sewage lines are intact.
- **Food and other supplies.** Throw out all food and other supplies that you suspect may have become contaminated or come in to contact with floodwater.
- **Your basement.** If your basement has flooded, pump it out gradually (about one third of the water per day) to avoid damage. The walls may collapse and the floor may buckle if the basement is pumped out while the surrounding ground is still waterlogged.
- **Open cabinets.** Be alert for objects that may fall.
- **Clean up household chemical spills.** Disinfect items that may have been contaminated by raw sewage, bacteria, or chemicals. Also clean salvageable items.
- **Call your insurance agent.** Take pictures of damages. Keep good records of repair and cleaning costs.

Being Wary of Wildlife and Other Animals

Disaster and life threatening situations will exacerbate the unpredictable nature of wild animals. To protect yourself and your family, learn how to deal with wildlife.

Guidelines

- Do not approach or attempt to help an injured or stranded animal. Call your local animal control office or wildlife resource office.
- Do not corner wild animals or try to rescue them. Wild animals will likely feel threatened and may endanger themselves by dashing off into floodwaters, fire, and so forth.
- Do not approach wild animals that have taken refuge in your home. Wild animals such as snakes, opossums, and raccoons often seek refuge from floodwaters on upper levels of homes and have been known to remain after water recedes. If you encounter animals in this situation, open a window or provide another escape route and the animal will likely leave on its own. Do not attempt to capture or handle the animal. Should the animal stay, call your local animal control office or wildlife resource office.
- Do not attempt to move a dead animal. Animal carcasses can present serious health risks. Contact your local emergency management office or health department for help and instructions.
- If bitten by an animal, seek immediate medical attention.

Seeking Disaster Assistance

Throughout the recovery period, it is important to monitor local radio or television reports and other media sources for information about where to get emergency housing, food, first aid, clothing, and financial assistance. The following section provides general information about the kinds of assistance that may be available.

Direct Assistance

Direct assistance to individuals and families may come from any number of organizations, including:

- American Red Cross.
- Salvation Army.
- Other volunteer organization.

These organizations provide food, shelter, supplies and assist in clean-up efforts.

The Federal Role

In the most severe disasters, the federal government is also called in to help individuals and families with temporary housing, counseling (for post-disaster trauma), low-interest loans and grants, and other assistance. The federal government also has programs that help small businesses and farmers.

Most federal assistance becomes available when the President of the United States declares a "Major Disaster" for the affected area at the request of a state governor. FEMA will provide information through the media and community outreach about federal assistance and how to apply.

Coping with Disaster

The emotional toll that disaster brings can sometimes be even more devastating than the financial strains of damage and loss of home, business, or personal property.

Understand Disaster Events

- Everyone who sees or experiences a disaster is affected by it in some way.
- It is normal to feel anxious about your own safety and that of your family and close friends.
- Profound sadness, grief, and anger are normal reactions to an abnormal event.
- Acknowledging your feelings helps you recover.
- Focusing on your strengths and abilities helps you heal.
- Accepting help from community programs and resources is healthy.
- Everyone has different needs and different ways of coping.
- It is common to want to strike back at people who have caused great pain.

Children and older adults are of special concern in the aftermath of disasters. Even individuals who experience a disaster "second hand" through exposure to extensive media coverage can be affected.

Contact local faith-based organizations, voluntary agencies, or professional counselors for counseling. Additionally, FEMA and state and local governments of the affected area may provide crisis counseling assistance.

Recognize Signs of Disaster Related Stress

When adults have the following signs, they might need crisis counseling or stress management assistance:

- Difficulty communicating thoughts.
- Difficulty sleeping.
- Difficulty maintaining balance in their lives.
- Low threshold of frustration.
- Increased use of drugs/alcohol.
- Limited attention span.
- Poor work performance.
- Headaches/stomach problems.
- Tunnel vision/muffled hearing.
- Colds or flu-like symptoms.
- Disorientation or confusion.
- Difficulty concentrating.
- Reluctance to leave home.
- Depression, sadness.
- Feelings of hopelessness.
- Mood-swings and easy bouts of crying.
- Overwhelming guilt and self-doubt.
- Fear of crowds, strangers, or being alone.

Easing Disaster-Related Stress

The following are ways to ease disaster-related stress:

- Talk with someone about your feelings—anger, sorrow, and other emotions—even though it may be difficult.
- Seek help from professional counselors who deal with post-disaster stress.
- Do not hold yourself responsible for the disastrous event or be frustrated because you feel you cannot help directly in the rescue work.
- Take steps to promote your own physical and emotional healing by healthy eating, rest, exercise, relaxation, and meditation.
- Maintain a normal family and daily routine, limiting demanding responsibilities on yourself and your family.
- Spend time with family and friends.
- Participate in memorials.

- Use existing support groups of family, friends, and religious institutions.
- Ensure you are ready for future events by restocking your disaster supplies kits and updating your family disaster plan. Doing these positive actions can be comforting.

Helping Children Cope with Disaster

Disasters can leave children feeling frightened, confused, and insecure. Whether a child has personally experienced trauma, has merely seen the event on television, or has heard it discussed by adults, it is important for parents and teachers to be informed and ready to help if reactions to stress begin to occur.

Children may respond to disaster by demonstrating fears, sadness, or behavioral problems. Younger children may return to earlier behavior patterns, such as bed-wetting, sleep problems, and separation anxiety. Older children may also display anger, aggression, school problems, or withdrawal. Some children who have only indirect contact with the disaster but witness it on television may develop distress.

Who is at Risk?

For many children, reactions to disasters are brief and represent normal reactions to "abnormal events." A smaller number of children can be at risk for more enduring psychological distress as a function of three major risk factors:

- Direct exposure to the disaster, such as being evacuated, observing injuries or death of others, or experiencing injury along with fearing one's life is in danger
- Loss/grief: This relates to the death or serious injury of family or friends
- On-going stress from the secondary effects of disaster, such as temporarily living elsewhere, loss of friends and social networks, loss of personal property, parental unemployment, and costs incurred during recovery to return the family to pre-disaster life and living conditions.

What Creates Vulnerabilities in Children?

In most cases, depending on the risk factors above, distressing responses are temporary. In the absence of severe threat to life, injury, loss of loved ones, or secondary problems such as loss of home, moves, etc., symptoms usually diminish over time. For those that were directly exposed to the disaster, reminders of the disaster such as high winds, smoke, cloudy skies, sirens, or other reminders of the disaster may cause upsetting feelings to return. Having a prior history of some type of traumatic event or severe stress may contribute to these feelings.

Children's coping with disaster or emergencies is often tied to the way parents cope. They can detect adults' fears and sadness. Parents and adults can make disasters less traumatic for children by taking steps to manage their own feelings and plans for coping. Parents are almost always the best source of support for children in disasters. One way to establish a sense of control and to build confidence in children before a disaster is to engage and involve them in preparing a family disaster plan. After a disaster, children can contribute to a family recovery plan.

See Section 1: Basic preparedness

A Child's Reaction to Disaster by Age

Below are common reactions in children after a disaster or traumatic event.

Birth through 2 years. When children are pre-verbal and experience a trauma, they do not have the words to describe the event or their feelings. However, they can retain memories of particular sights, sounds, or smells. Infants may react to trauma by being irritable, crying more than usual, or wanting to be held and cuddled. The biggest influence on children of this age is how their parents cope. As children get older, their play may involve acting out elements of the traumatic event that occurred several years in the past and was seemingly forgotten.

Preschool—3 through 6 years. Preschool children often feel helpless and powerless in the face of an overwhelming event. Because of their age and small size, they lack the ability to protect themselves or others. As a result, they feel intense fear and insecurity about being separated from caregivers. Preschoolers cannot grasp the concept of permanent loss. They can see consequences as being reversible or permanent. In the weeks following a traumatic event, preschoolers' play activities may reenact the incident or the disaster over and over again.

School age—7 through 10 years. The school-age child has the ability to understand the permanence of loss. Some children become intensely preoccupied with the details of a traumatic event and want to talk about it continually. This preoccupation can interfere with the child's concentration at school and academic performance may decline. At school, children may hear inaccurate information from peers. They may display a wide range of reactions—sadness, generalized fear, or specific fears of the disaster happening again, guilt over action or inaction during the disaster, anger that the event was not prevented, or fantasies of playing rescuer.

Pre-adolescence to adolescence—11 through 18 years. As children grow older, they develop a more sophisticated understanding of the disaster event. Their responses are more similar to adults. Teenagers may become involved in dangerous, risk-taking behaviors, such as reckless driving, or alcohol or drug use. Others can become fearful of leaving home and avoid previous levels of activities. Much of adolescence is focused on moving out into the world. After a trauma, the view of the world can seem more dangerous and unsafe. A teenager may feel overwhelmed by intense emotions and yet feel unable to discuss them with others.

Meeting the Child's Emotional Needs

Children's reactions are influenced by the behavior, thoughts, and feelings of adults. Adults should encourage children and adolescents to share their thoughts and feelings about the incident. Clarify misunderstandings about risk and danger by listening to children's concerns and answering questions. Maintain a sense of calm by validating children's concerns and perceptions and with discussion of concrete plans for safety.

Listen to what the child is saying. If a young child is asking questions about the event, answer them simply without the elaboration needed for an older child or adult. Some children are comforted by knowing more or less information than others; decide what level of information your particular child needs. If a child has difficulty expressing feelings, allow the child to draw a picture or tell a story of what happened.

Try to understand what is causing anxieties and fears. Be aware that following a disaster, children are most afraid that:

- The event will happen again.
- Someone close to them will be killed or injured.
- They will be left alone or separated from the family.

Reassuring Children After a Disaster

Suggestions to help reassure children include the following:

- Personal contact is reassuring. Hug and touch your children.
- Calmly provide factual information about the recent disaster and current plans for insuring their safety along with recovery plans.
- Encourage your children to talk about their feelings.
- Spend extra time with your children such as at bedtime.
- Re-establish your daily routine for work, school, play, meals, and rest.
- Involve your children by giving them specific chores to help them feel they are helping to restore family and community life.
- Praise and recognize responsible behavior.
- Understand that your children will have a range of reactions to disasters.
- Encourage your children to help update your a family disaster plan.

If you have tried to create a reassuring environment by following the steps above, but your child continues to exhibit stress, if the reactions worsen over time, or if they cause interference with daily behavior at school, at home, or with other relationships, it may be appropriate to talk to a professional. You can get professional help from the child's primary care physician, a mental health provider specializing in children's needs, or a member of the clergy.

Monitor and Limit Your Family's Exposure to the Media

News coverage related to a disaster may elicit fear and confusion and arouse anxiety in children. This is particularly true for large-scale disasters or a terrorist event where significant property damage and loss of life has occurred. Particularly for younger children, repeated images of an event may cause them to believe the event is recurring over and over.

If parents allow children to watch television or use the Internet where images or news about the disaster are shown, parents should be with them to encourage communication and provide explanations. This may also include parent's monitoring and appropriately limiting their own exposure to anxiety-provoking information.

Use Support Networks

Parents help their children when they take steps to understand and manage their own feelings and ways of coping. They can do this by building and using social support systems of family, friends, community organizations and agencies, faith-based institutions, or other resources that work for that family. Parents can build their own unique social support systems so that in an emergency situation or when a disaster strikes, they can be supported and helped to manage their reactions. As a result, parents will be more available to their children and better able to support them. Parents are almost always the best source of support for children in difficult times. But to support their children, parents need to attend to their own needs and have a plan for their own support.

Preparing for disaster helps everyone in the family accept the fact that disasters do happen, and provides an opportunity to identify and collect the resources needed to meet basic needs after disaster. Preparation helps; when people feel prepared, they cope better and so do children.

Helping Others

The compassion and generosity of the American people is never more evident than after a disaster. People want to help. Here are some general guidelines on helping others after a disaster:

- Volunteer! Check with local organizations or listen to local news reports for information about where volunteers are needed. **Note:** Until volunteers are specifically requested, stay away from disaster areas.
- Bring your own food, water, and emergency supplies to a disaster area if you are needed there. This is especially important in cases where a large area has been affected and emergency items are in short supply.
- Give a check or money order to a recognized disaster relief organization. These groups are organized to process checks, purchase what is needed, and get it to the people who need it most.

- Do not drop off food, clothing, or any other item to a government agency or disaster relief organization unless a particular item has been requested. Normally, these organizations do not have the resources to sort through the donated items.
- Donate a quantity of a given item or class of items (such as nonperishable food) rather than a mix of different items. Determine where your donation is going, how it's going to get there, who is going to unload it, and how it is going to be distributed. Without sufficient planning, much needed supplies will be left unused.

For More Information

If you require more information about any of these topics, the following are resources that may be helpful.

FEMA Publications

Helping Children Cope with Disasters. L-196. Provides information about how to prepare children for disaster and how to lessen the emotional effects of disaster.

When Disaster Strikes. L-217. Provides information about donations and volunteer organizations.

Repairing Your Flooded Home. FEMA 234. This 362-page publication provides a step-by-step guide to repairing your home and how to get help after a flood disaster. Available online at www.fema.gov/hazards/floods/lib234.shtm

After a Flood: The First Steps. L 198. Tips for staying healthy, cleaning up and repairing, and getting help after a flood. Available online at www.fema.gov/hazards/floods/aftrfld.shtm

Appendix A: Water Conservation Tips

Indoor Water Conservation Tips

General

- Never pour water down the drain when there may be another use for it. Use it to water your indoor plants or garden.
- Repair dripping faucets by replacing washers. One drop per second wastes 2,700 gallons of water per year!
- Check all plumbing for leaks. Have leaks repaired by a plumber.
- Retrofit all household faucets by installing aerators with flow restrictors.
- Install an instant hot water heater on your sink.
- Insulate your water pipes to reduce heat loss and prevent them from breaking.
- Install a water-softening system only when the minerals in the water would damage your pipes. Turn the softener off while on vacation.
- Choose appliances that are more energy and water efficient.

Bathroom

- Consider purchasing a low-volume toilet that uses less than half the water of older models. **Note:** In many areas, low-volume units are required by law.
- Install a toilet displacement device to cut down on the amount of water needed to flush. Place a one-gallon plastic jug of water into the tank to displace toilet flow (do not use a brick, it may dissolve and loose pieces may cause damage to the internal parts). Be sure installation does not interfere with the operating parts.
- Replace your showerhead with an ultra-low-flow version.
- Place a bucket in the shower to catch excess water for watering plants.
- Avoid flushing the toilet unnecessarily. Dispose of tissues, insects, and other similar waste in the trash rather than the toilet.
- Avoid taking baths—take short showers—turn on water only to get wet and lather and then again to rinse off.
- Avoid letting the water run while brushing your teeth, washing your face, or shaving.

Kitchen

- Operate automatic dishwashers only when they are fully loaded. Use the "light wash" feature, if available, to use less water.
- Hand wash dishes by filling two containers—one with soapy water and the other with rinse water containing a small amount of chlorine bleach.
- Clean vegetables in a pan filled with water rather than running water from the tap.
- Start a compost pile as an alternate method of disposing of food waste or simply dispose of food in the garbage. (Kitchen sink disposals require a lot of water to operate properly).
- Store drinking water in the refrigerator. Do not let the tap run while you are waiting for water to cool.

- Avoid wasting water waiting for it to get hot. Capture it for other uses such as plant watering or heat it on the stove or in a microwave.
- Avoid rinsing dishes before placing them in the dishwasher; just remove large particles of food. (Most dishwashers can clean soiled dishes very well, so dishes do not have to be rinsed before washing)
- Avoid using running water to thaw meat or other frozen foods. Defrost food overnight in the refrigerator or use the defrost setting on your microwave oven.

Laundry

- Operate automatic clothes washers only when they are fully loaded or set the water level for the size of your load.

Outdoor Water Conservation Tips

General

- Check your well pump periodically. If the automatic pump turns on and off while water is not being used, you have a leak.
- Plant native and/or drought-tolerant grasses, ground covers, shrubs, and trees. Once established, they do not need water as frequently and usually will survive a dry period without watering. Small plants require less water to become established. Group plants together based on similar water needs.
- Install irrigation devices that are the most water efficient for each use. Micro and drip irrigation and soaker hoses are examples of efficient devices.
- Use mulch to retain moisture in the soil. Mulch also helps control weeds that compete with landscape plants for water.
- Avoid purchasing recreational water toys that require a constant stream of water.
- Avoid installing ornamental water features (such as fountains) unless they use recycled water.

Car Washing

- Use a shut-off nozzle that can be adjusted down to a fine spray on your hose.
- Use a commercial car wash that recycles water. If you wash your own car, park on the grass so that you will be watering it at the same time.

Lawn Care

- Avoid over watering your lawn. A heavy rain eliminates the need for watering for up to two weeks. Most of the year, lawns only need one inch of water per week.
- Water in several short sessions rather than one long one, in order for your lawn to better absorb moisture.
- Position sprinklers so water lands on the lawn and shrubs and not on paved areas.

- Avoid sprinklers that spray a fine mist. Mist can evaporate before it reaches the lawn. Check sprinkler systems and timing devices regularly to be sure they operate properly.
- Raise the lawn mower blade to at least three inches or to its highest level. A higher cut encourages grass roots to grow deeper, shades the root system, and holds soil moisture.
- Plant drought-resistant lawn seed.
- Avoid over-fertilizing your lawn. Applying fertilizer increases the need for water. Apply fertilizers that contain slow-release, water-insoluble forms of nitrogen.
- Use a broom or blower instead of a hose to clean leaves and other debris from your driveway or sidewalk.
- Avoid leaving sprinklers or hoses unattended. A garden hose can pour out 600 gallons or more in only a few hours.

Pool

- Install a new water-saving pool filter. A single back flushing with a traditional filter uses 180 to 250 gallons of water.
- Cover pools and spas to reduce evaporation of water.

Appendix B: Disaster Supplies Checklists

The following list is to help you determine what to include in your disaster supplies kit that will meet your family's needs.

First Aid Supplies

Supplies	Home (√)	Vehicle (√)	Work (√)
Adhesive bandages, various sizes			
5" x 9" sterile dressing			
Conforming roller gauze bandage			
Triangular bandages			
3" x 3" sterile gauze pads			
4" x 4" sterile gauze pads			
Roll 3" cohesive bandage			
Germicidal hand wipes or waterless, alcohol-based hand sanitizer			
Antiseptic wipes			
Pairs large, medical grade, non-latex gloves			
Tongue depressor blades			
Adhesive tape, 2" width			
Antibacterial ointment			
Cold pack			
Scissors (small, personal)			
Tweezers			
Assorted sizes of safety pins			
Cotton balls			
Thermometer			
Tube of petroleum jelly or other lubricant			
Sunscreen			
CPR breathing barrier, such as a face shield			
First aid manual			

Non-Prescription and Prescription Medicine Kit Supplies

Supplies	Home (√)	Vehicle (√)	Work (√)
Aspirin and non-aspirin pain reliever			
Anti-diarrhea medication			
Antacid (for stomach upset)			
Laxative			
Vitamins			
Prescriptions			
Extra eyeglasses/contact lenses			

Sanitation and Hygiene Supplies

Item	(√)	Item	(√)
Washcloth and towel		Heavy-duty plastic garbage bags and ties for personal sanitation uses and toilet paper	
Towelettes, soap, hand sanitizer		Medium-sized plastic bucket with tight lid	
Tooth paste, toothbrushes		Disinfectant and household chlorine bleach	
Shampoo, comb, and brush		A small shovel for digging a latrine	
Deodorants, sunscreen		Toilet paper	
Razor, shaving cream			
Lip balm, insect repellent			
Contact lens solutions			
Mirror			
Feminine supplies			

Equipment and Tools

Tools	(√)	Kitchen Items	(√)
Portable, battery-powered radio or television and extra batteries		Manual can opener	
NOAA Weather Radio, if appropriate for your area		Mess kits or paper cups, plates, and plastic utensils	
Flashlight and extra batteries		All-purpose knife	
Signal flare		Household liquid bleach to treat drinking water	
Matches in a waterproof container (or waterproof matches)		Sugar, salt, pepper	
Shut-off wrench, pliers, shovel, and other tools		Aluminum foil and plastic wrap	
Duct tape and scissors		Resealable plastic bags	
Plastic sheeting		Small cooking stove and a can of cooking fuel (if food must be cooked)	
Whistle			
Small canister, ABC-type fire extinguisher		**Comfort Items**	
Tube tent		Games	
Compass		Cards	
Work gloves		Books	
Paper, pens, and pencils		Toys for kids	
Needles and thread		Foods	
Battery-operated travel alarm clock			

Food and Water

Supplies	Home (√)	Vehicle (√)	Work (√)
Water			
Ready-to-eat meats, fruits, and vegetables			
Canned or boxed juices, milk, and soup			
High-energy foods such as peanut butter, jelly, low-sodium crackers, granola bars, and trail mix.			
Vitamins			
Special foods for infants or persons on special diets			
Cookies, hard candy			
Instant coffee			
Cereals			
Powdered milk			

Clothes and Bedding Supplies

Item	(√)	(√)	(√)	(√)
Complete change of clothes				
Sturdy shoes or boots				
Rain gear				
Hat and gloves				
Extra socks				
Extra underwear				
Thermal underwear				
Sunglasses				
Blankets/sleeping bags and pillows				

Documents and Keys

Make sure you keep these items in a watertight container

Item	Stored (√)
Personal identification	
Cash and coins	
Credit cards	
Extra set of house keys and car keys	
Copies of the following:	
• Birth certificate	
• Marriage certificate	
• Driver's license	
• Social Security cards	
• Passports	
• Wills	
• Deeds	
• Inventory of household goods	
• Insurance papers	
• Immunization records	
• Bank and credit card account numbers	
• Stocks and bonds	
Emergency contact list and phone numbers	
Map of the area and phone numbers of places you could go	

Appendix C:

Homeland Security Family Communications Plan

Your family may not be together when disaster strikes, so plan how you will contact one another and review what you will do in different situations.

Out-of-State Contact Name: Telephone Number:
Email: Telephone Number:

Fill out the following information for each family member and keep it up to date.

Name: Social Security Number:
Date of Birth: Important Medical Information:

Name: Social Security Number:
Date of Birth: Important Medical Information:

Name: Social Security Number:
Date of Birth: Important Medical Information:

Name: Social Security Number:
Date of Birth: Important Medical Information:

Name: Social Security Number:
Date of Birth: Important Medical Information:

Name: Social Security Number:
Date of Birth: Important Medical Information:

Where to go in an emergency. Write down where your family spends the most time: work, school and other places you frequent. Schools, daycare providers, workplaces and apartment buildings should all have site-specific emergency plans.

Home
Address:
Phone Number:
Neighborhood Meeting Place:
Regional Meeting Place:

Work
Address:
Phone Number:
Evacuation Location:

School
Address:
Phone Number:
Evacuation Location:

Work
Address:
Phone Number:
Evacuation Location:

School
Address:
Phone Number:
Evacuation Location:

Other place you frequent:
Address:
Phone Number:
Evacuation Location:

School
Address:
Phone Number:
Evacuation Location:

Other place you frequent:
Address:
Phone Number:
Evacuation Location:

Important Information	Name	Telephone #	Policy #
Doctor(s):			
Other:			
Pharmacist:			
Medical Insurance:			
Homeowners/Rental Insurance:			
Veterinarian/Kennel (for pets):			

Other useful phone numbers: **9-1-1 for emergencies.** Police Non-Emergency Phone #:

Every family member should carry a copy of this important information: