

Center for American Progress



CONFERENCE PROCEEDINGS

**“LESSONS OF KATRINA: CRITICAL
INFRASTRUCTURE, PREPAREDNESS AND
HOMELAND SECURITY”**

**8:30 AM – 4:30 PM
WEDNESDAY, NOVEMBER 17, 2005**

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PROGRAM

Morning Keynote Address

8:45 a.m. - 9:45 a.m.

Bennie Thompson (D-MS),
Ranking Member,
House Homeland Security Committee

First Panel: Communications Infrastructure Security

9:45 a.m. - 11:15 a.m.

Moderated by:
The Honorable Tim Roemer,
President of the Center for National Policy

Art Botterell,
Emergency Information Systems Consultant

Dave Farber,
Professor of Computer Science and Public Policy,
Carnegie Mellon University

Mike O'Dell,
Venture Partner,
New Enterprise Associates

Second Panel: Energy Infrastructure Security

11:30 a.m. - 1:00 p.m.

Moderated by:
Ana Unruh Cohen,
Associate Director for Environmental Policy,
Center for American Progress

Leon Feurth,
Research Professor, Elliott School of International Affairs,
George Washington University

Melanie Kenderdine,

Vice President for Washington Operations,
Gas Technology Institute

Michael Klare,
Five College Professor of Peace and World Security Studies and Director of
the Five College Program in Peace and World Security Studies (PAWSS)

Ronald E. Minsk,
Associate, Energy Practice Group, Alston & Bird, LLP

Luncheon Keynote Address

1:30 p.m. – 2:15 p.m.

Governor Jim Gilmore,
Chairman, National Council on
Readiness and Preparedness

Third Panel: Public Health and Safety Infrastructure Security

2:30 p.m. - 4:00 p.m.

Moderated by:
P. J. Crowley,
Director of Homeland Security and National Defense,
Center for American Progress

The Honorable Lynn Goldman, M.D.,
Professor, Johns Hopkins Bloomberg School of Public Health

Erik Olson, Senior Attorney,
Natural Resources Defense Council

The Honorable Jim Turner,
Former Congressman; Partner, Arnold & Porter, LLP

Concluding Remarks and Summary Session

4:00 p.m. - 4:30 p.m.

P. J. Crowley,
Director of Homeland Security and National Defense,

Center for American Progress
with
Clark Kent Ervin,
Director of the Homeland Security Initiative,
Aspen Institute

Morning Keynote Address

P. J. CROWLEY: Good morning. That's a very good idea. The first thing I would caution for any of those that have technology, which we'll be talking about later this morning, please put it on mute, turn it off so as not to disturb the participants. I am P. J. Crowley. I am a senior fellow here at the Center for American Progress and director of the center's homeland security program. I am going to be your master of ceremonies during the course of the day and on behalf of John Podesta, our president, and our national security team, welcome to this day-long review of lessons from Hurricane Katrina: the impact that it had on our nations critical infrastructure, what this experience says about our national preparedness, and most importantly what needs to be done to reduce to reduce our vulnerability to and mitigate the consequences of future disasters, whether natural or terrorist in nature.

This is the fifth in a series of programs that we've held on critical infrastructure security, how we protect structures and operations that are essential to our society, economy, and way of life. Critical infrastructure sits at the nexus of the homeland security partnership among federal, state, and local governments and the private sector. And that partnership was AWOL on August 29 as Katrina struck the Gulf Coast: as natural and manmade defenses failed, as response systems were overwhelmed, and as the political finger-pointing began.

Earlier this week on his way to Asia, the president updated the American people on his strategy to win the so called "War on Terror." He repeated that his choice in the war on terrorism was to stay on the offensive against terrorists and his critics. He outlined a military component for denying terrorists sanctuaries around the world, as well as access to weapons of mass destruction. He outlined a political component to promote democracy around the world and reduce the ability of terrorist networks to attract new recruits. But the president did not mention any revised approach to homeland security given how Katrina demonstrated how we do not yet have a sufficient defense to compliment our offense that clearly is the best in the world.

Katrina shocked the American people for a number of reasons, notwithstanding the evident heroism of a range of first responders, the government response at all levels was confused, slow, and not adequate. There were clear failures of planning and execution. Four years after 9/11, we are not sufficiently prepared for the next attack, even as the global threat of terrorism to the United States continues to increase. Our defense, our homeland security structure, national preparedness, disaster response planning, and coordination and communication among governments and the private sector is not what it needs to be. While we have reduced some vulnerability within our society – aviation security is the best example – Katrina revealed that in other vital

sectors, our critical infrastructure is vulnerable to disruption. As we saw across the Gulf Coast, including New Orleans and Houston, our ability to manage the consequences of major catastrophes is inadequate.

With that I am honored to introduce the first of three keynote speakers that we'll have today. He is the ranking member of the Homeland Security Committee in the House of Representatives, the Honorable Bennie G. Thompson. He represents Mississippi's second congressional district, and obviously understands firsthand what happened with Katrina, how governments at all levels struggled in the aftermath, and what we need to do now to improve our homeland security and our national preparedness in the future.

Congressman, I was thinking that I remember John Kennedy was once asked how he became a hero and he said "it was involuntary; they sank my boat." You know I suppose, Congressman, how did you find out so much about Katrina? Well, you know it slammed my state. But actually he is no newcomer to this; as a member of the Homeland Security Committee he has been focused on the evolution of the Department of Homeland Security from its beginning. But most importantly, at a time when the president says that the solution to some of the Katrina problems may be federalizing or militarizing disaster response, it's important to remember that Congressman Thompson has been an alderman, a mayor, a city manager, and I think from that perspective he'd say, "Look, I'm looking for help from the federal government. I'm not looking to be replaced by the federal government." But he has a very unique and important perspective and I think he will provide a lens through which a lot of our analysis here today will be formed.

So without further adieu, Congressman, welcome to the Center for American Progress.

(Applause.)

BENNIE G. THOMPSON: Thank you very much. Thank you, P. J. I appreciate the very kind introduction. As usual, our congressional schedule is on a day-by-day basis and I have a mark-up at 10:00 on the border security bill that is very important to a lot of us, so I will stay as long as I can.

First of all, as P. J. indicated, I am one of a rare breed. I am someone who actually came to Congress from local government. I am not a lawyer; I am just somebody who lives in a small community. I've stayed there all my life. I married a small-town girl and the rest you can read about on the web page.

But I am happy to be here. It's an opportunity to talk about something that I am very passionate about. You want to talk a little bit about Hurricane Katrina. And I will talk more specifically but it was a significant event as you know. I've been a little disheartened that my Department of Homeland Security has basically made an excuse that it was such an event that nobody could have predicted it and nobody could have dealt

with the outcome. Well, that's why we have FEMA. That's why we have emergency preparedness and so regardless to what the event, we should be prepared. And obviously the response was totally inadequate.

As the ranking member of the Homeland Security Committee I can tell you, we were significantly impacted. My district, during the hurricane, received about 50,000 evacuees from Texas, Louisiana, and the Gulf Coast of Mississippi. We in very short order put shelters together, many times in spite of the response mechanism not being what it should have been. We did it in spite of. Red Cross shelters were not getting approved fast enough; FEMA for the most part initially was missing in action. And so public minded citizens, people of the faith community stepped forward and did what they had to do and in spite of it we've had significant success, but obviously every day the water torture of another horror story continues to grow.

The horror story yesterday was in fact that all the people who are residing in hotels will be evicted as of December 1st. Well, you can imagine the people in the hotels what they felt, but can you imagine many of us who have been briefed by the department, some of us who have even meet with the secretary within the last week were not told about this fact either. And clearly we can't deal with situations like this as an afterthought or a "gotcha."

For the most part you know our department was created after 9/11. This was supposed to be the nation's response to not only the terrorist threat, but also be prepared for natural disasters. Unfortunately, we had every system in place except the experts to operate the system. We have a national response plan that said when systems are overloaded, the federal government steps in. Unlike the initial step – what our president talked about that maybe that response should be first be the federal response and then local government kind of build around it. Well, obviously all the governors rejected as well as many local officials.

We should be, as a government, the cavalry: we should come when local resources are so overwhelmed we have to come in, but in doing so we have to be propositioned. The Hurricane we knew was around; it wasn't a terrorist incident, so we had time to preposition a number of things and in retrospect, obviously, many of those things did not happen. The Coast Guard did a wonderful job, but they are just a little part of the puzzle. There were a number of other situations that we had to address.

And what I want to talk a little bit about is what we have on the drawing board that you've heard about: Hurricane Pam. We did the scenario specifically for the New Orleans area and basically many of the things that were identified in that scenario occurred within the Hurricane Katrina event. But somehow we did not have the resources marshaled to address this. Our FEMA director obviously was shopping at Nordstrom's and not really concerned about dealing with the event of the Hurricane. Our DHS director was at home and was told, "Just keep me informed as to what was going on." Obviously the FEMA staffer in New Orleans was sending – saying, "Look, this event was more than we ever dreamed about. We need more assets and resources to the

area.” Well, unfortunately it took two days for that email to get responded to, so clearly we had a system that was on meltdown. And even though we had a coach that was somewhat absent, we had a manager that didn’t even find the stadium. So we had significant challenges before us.

Now, I would like to talk a little bit about some other aspects of what occurred. Let’s talk about the national infrastructure plan. We have a plan, although it’s one that was late being produced, that identified every vulnerability that’s supposed to be in the country from a terrorist threat to not only those that occur within occurrences like Katrina. Unfortunately, we were late receiving the plan. When we received the plan, it was classified and folks said it’s really not up to par; we’re going take it back and get it back to you.

We then found out that a contractor had been contracted to help produce the national infrastructure plan and it wasn’t even being produced in-house by the Department. That gives rise to the reason when I saw it – the bridge that connects Greenville, Mississippi, to Arkansas wasn’t listed on the plan. The nuclear plant that was located in my district was misidentified from a location; it was 12 miles from where the plan indicated that it was located. Senator Istook, when he saw the plan, said that it was a joke.

Other colleagues said “Well, why would you put a miniature golf course on a National Infrastructure plan. What’s significant about that?” Well somebody said, “If it occurred on Friday night it would be a lot of people at the golf course.” Well that’s not really how you put the plan together. In many instances – there are a lot of other examples I could give you, but I’m sure you know others too.

With respect to how we responded to Katrina, let me just assure you that the Bay St. Louis Police Department didn’t just break into Wal-Mart to get food and clothes for themselves because nobody came in three days to say, “Can we help?” It was a matter of necessity. Unfortunately, many of those kinds of stories we hear from the Gulf region simply because the notion of interoperability – just what came clear. Not only could people not talk to each other, we had no aspect anywhere propositioned no one that with a category three, four, or five hurricane in existence many of these things would happen, nobody brought the technology and other assets together.

Now, some say many of those assets were actually overseas in Iraq. In Mississippi, 37 percent of our National Guard was actually on active duty in Iraq and so many of the things necessary to support this event was in support of the war in Iraq, so they could not be marshaled here. But somewhere our National Incident Plan should have covered all of this and said, look we have all these situations occurring, can we pool the resources?

The best story I can tell you – if the Royal Canadian Mounted Police can get from Canada to Baton Rouge, Louisiana, within a day and a half flying commercial carrier, you understand – and all they did – they flew Continental Airlines to Houston, Texas, and

rented a car and drove to Baton Rouge, Louisiana, and they were there to help. And we were still scurrying sending faxes and emails getting permission to get generators and other things brought into the area. Something's wrong with the system when that happens.

Now, unfortunately, associated with that is what do we do with the people? Well, what we've significantly done – we've put them in 50 states. People were put on buses, on planes, not told where they were going. You've heard the story about the planeload of people that came to Washington and people were welcoming them as they were getting off the plane and they said "Welcome to the nation's capital." And the people looked at them and said, "Really? I didn't know we were coming to Washington." So you can imagine the disconnect between a system that should be robust and accountable just taking people and moving them around just like cattle.

Another example is a group ended up in Charleston, West Virginia, and the beds and facilities were waiting for them in Charleston, South Carolina, so ultimately they were a day late getting to where they were supposed to go. So there are a number of stories associated with it. The notion of how do we rebuild the community is real. You've heard about all the prime venter contracts that more or less have gone out the door. That is a real problem. Many of the contractors got the contracts and now are trying to subcontract the work out at what I call share-cropper wages. Many of them did not move their own resources to do the work. They are just in the area operating out of little small facilities passing out contracts.

Well, the argument we got from the department is that we had to move these prime contracts out early because these companies had to capacity to get the work done. Well, several billion dollars later, we now know that that's questionable. We know that only about 20 percent of the debris has actually been removed and it's only been removed from public rights of ways; that we still have a number of private property situations where home owners can't under any circumstances remove it. We have most of the homeowners who did not have flood insurance; most who didn't live in a flood plain are now being told by their carriers that, well, even though you had homeowners insurance, and some of you had hurricane insurance, you really needed flood insurance. And so we now have that challenge of how do we help rebuild many of those homes. Most individuals who, as you know, had invested in the single largest investment in their life, which is a home – most of them had the homes paid for and basically trying to live out their lives in some peace and tranquility now to be up rooted and to be really just kicked to the side by their insurance company.

Well, there are a number of packages talking about how do we give relief. That's a real challenge for us and you'll be hearing more about that. On our infrastructure situation, many of the items that failed we didn't have listed on our national infrastructure plan, so most of the pipelines and some of the other things that was disrupted that caused your gasoline, like mine, to go up to over \$3 a gallon, we didn't have the systems in place to identify that so that we could protect it, so we have real challenges.

Now, there are some other things that I want to kind of talk to you as a final note with this. We really have to work with getting the department not only to be more robust but they have to respond in the real time situation with occurrences. I question whether or not that can really occur with FEMA being within the Department of Homeland Security.

It is now one of many departments within a huge department, and if you know anything about bureaucracies the lower you are on the totem pole, the fewer people listen to you. So that FEMA staff desperately emailing back to the department for help, you can imagine how they feel. I am convinced we will never have another horse administrator as the head of FEMA. (Laughter.) We absolutely have to have professionals to run it – to do the job. That is the kind of position you can't put a political crony in; you have really put a professional.

I'm happy to say that Mr. Paulison, the person who is there now, has the credentials, but I am not sure the administrative framework is there that would necessarily allow him to do a good job. Some of us think that FEMA should go back to the structure that it used to be before it was brought into DHS, which was an independent agency with a director that had the capacity to marshal assets and get things done.

The absolute worst thing to do is to make the federal response the primary response for any emergency or earthquake or whatever. Our president is wrong on that front. We had the governors of the state who indicated that they didn't want that to occur; that the people of their communities and states elected them and they are going to accept that responsibility. Barbara Jordan once said that what the people want is very simple: they want an America as good as its promise. And in many instances we have not kept that promise with DHS as it relates to some of the issues we have talked about today. We continue to try to make it better, but it is difficult. And I could give you a lot of the other things, but in summary the experience of Katrina, Rita, and Wilma all kind of rolled into one tell us that our disaster preparedness system needs significant help.

It's not so much that emergencies don't happen, but we have to be prepared. These kinds of emergencies – we watched Katrina, we watched Rita, we watched Wilma, so the question is why should we move ice all over the country and then finally decide that we are going to take it to Maine because we couldn't decide what happened? In Forest County, the sheriff of the county after 10 days went to Camp Shelby and commandeered two 18-wheelers of ice and water and handcuffed the lieutenant who was guarding the trucks and said, "Look, my people need ice and water. You've got it and don't know what to do with it." And so there are a number of those kinds of stories all over the district about the incompetence that occurred with those situations.

I was told by the DHS staffer that my people had been on telephone calls on a daily basis with updates for Katrina. Well, I really wanted to tell her that we didn't have telephones for six days. How in the world could I or my people be on a telephone call and we can't even call? So it's those kinds of situations, and I am not – I'm just giving you real life situations that occurred. So we have some challenges. Dean Taylor has

been an absolute hero in his area. He lost his home and actually sending a satellite phone down to his office to operate because he couldn't get anybody else to get him a satellite phone. So you know little small things that mean an awful lot in emergency situations. I had eight self-contained first responder units in the northern part of my district who were prepared to go and help with rescue and recovery. And each time they called, they were told, "We'll get back with you." And so those kinds of situations really compounded the frustration of how people responded to Katrina. But some of us are committed to making it better. We'll do that.

I was – had a meeting with the secretary last Wednesday and it was interesting that he said to me, he said, "Well, you know, I really wish you all wouldn't be so critical of us." And I looked at him and said "Oh really?" And I said, "Well, what do you think I should do?" And he kind of mumbled something, "Well, you could just kind of work with us." Well, if I had not been intricately involved in the situation to see what had occurred, I might would have been a little more sympathetic to his wishes. (Laughter.) But I just couldn't, and so we'll continue to raise the issue of accountability within the department and the fact that taxpayers deserve the best department that money can buy.

Thank you very much.

(Applause.)

MR. CROWLEY: The congressman has a few minutes to answer some questions. Given that we have some time constraints, Antoine in the back will come to you when you raise your hand. Please try to keep your questions brief, but obviously identify who you are and who you represent. And perhaps if there are any media in the audience this early, you could ask the first question.

But as Antoine stays up, let me ask the chair: a friend of mine said, if you find someone in authority please ask them for an update on Trent Lott's house since the president said this would be one of the more critical things for what happens in this city. But let me ask you, you were talking about police breaking into Wal-Mart, and obviously one of the critical aspects is – and the unknowns – how do we marshal the capabilities of the private sector into disaster response? And there are questions about liability there, but that seems in my mind to be one of the part of the missing link in that whatever we have at the public sector, what's really missing is to try to make sure that we take the talents of the private sector and make sure they are fully integrated probably at the community level into disaster response. In your judgment, how do we do that?

REP. THOMPSON: Well, it's basically recognizing that the private sector has the capacity to do things in many instances better than government because otherwise they wouldn't be in business. If Wal-Mart can get water to the people at the Superdome in New Orleans when FEMA couldn't, or if CNN could basically carry out the whole scenario of Katrina over the air waves where we all saw it. You say, well, why couldn't the people whose responsibility to work with recovery and response do the same thing? Well, you just hit the nail on the head. We have not involved the private sector. The

National Incident Plan calls for the utilization of many of those private assets, but even though this was considered an incident of national significance and the first time in our history that we've had that declared, we can't find enough of how that was suppose to work within the system for that to occur.

Unfortunately, help was offered from all around the world and in many instances, as you probably know, many of those calls to offer help just basically were put on hold and people never really occurred – never happened. The FEMA server was down most of the time; the 800 number was busy – just any number of situations. We found out that FEMA, under the old scenario, used to contract out its 800 system to the private industry. And basically when emergencies would occur, airlines, hotels, motels, other people who have large banks of operators would be the back up. Well, somebody made the bright decision that that was a waste of money and so we shouldn't use it. And so that's why when people would tell you, well, just call the 800 number. Well, I tried all day. I even stayed up until 3:00 one morning figuring that somebody would be asleep by then and I might could get through, and it was still busy. So we absolutely have to involve the private sector more.

Our relief agencies, primarily the Red Cross, need to do a better job in my estimation. There were a number of miscues associated with the Red Cross. A number of people wanted to help and people were turned away by saying, well, you're not trained; you aren't on our list. And people said "Look, I don't want to administer medicine, you know, I just want to help." And they were told no. Most of the Red Cross shelters were miles away from the impacted areas with no transportation for those individuals involved. So there were just a number of situations and I guess what bothered most of us, we were told "Well, we are doing that for security reasons." And you know, for a lot of us that's kind of a code word for not wanting to deal with minorities or those situations where communities are vulnerable. So we're working through that.

We're going to file a bill to address some of that because we put some money into the Red Cross and in return we expect them to involve a lot more people than they did. The only partnership agreement they had before Katrina was with the Southern Baptist Convention. Well, the Southern Baptist Convention is one of many religions in the country, but their history is not one of being open to everyone in the country. So now the Red Cross is moving toward bringing more partnership agreements into their fold. And that's the right thing to do.

Q: Thank you, Congressman Thompson, for all of your work. I have a question, the scientists, environmentalists, meteorologists, have all warned us that the U.S. is likely to see more hurricanes in the next 10 to 15 years – major hurricanes. And so my question is, what is Homeland Security, FEMA, and our government doing to make sure that our bridges and our levees are able to withstand at least a category five because this warning – we have it now. And what is the timeline for it? Thank you.

REP THOMPSON: Well, there is no timeline. What you will see is a political process unfolding. It's based on politics. If the will of Congress to put the resource

necessary to support this – the infrastructure and development is there, it will happen. The department should help provide the leadership in saying what needs to happen. Organizations and individuals like yourself need to advocate that we do the right thing.

It will cost us far more to rebuild the Gulf Coast because of Katrina than if we had put the systems in place before. And unfortunately if another catastrophe happens, it will continue raise the price tag more. Some things we could avoid in terms of the flood and things that came about because of Katrina. Catastrophes will happen. We just have to be prepared for them. We still don't have these so-called trailers for people who are supposed to have them for 18 months in place. Now we find out that we have given contracts to people who are not in the trailer business and so we just continue to have stories like these developing. And so I encourage you to rattle the chains of advocacy on behalf of your individual positions, otherwise that next catastrophe will happen and unless things change many of the occurrences that we saw with the last will occur again.

Q: I am Jeffie Joseph (ph) with Systems Planning and Analysis Incorporated. Currently the department is restructuring itself under Secretary Chertoff's second stage review three years after being organized for the first time. In retrospect, do you still believe the decision to create the department was the right one or have we spent too much time and energy trying to wire the right bureaucratic diagram instead of securing America?

REP. THOMPSON: Well, I still think that it's the right thing to do. We absolutely should have a department with the mission. Our problem is from a leadership perspective and from a – and leadership talks about putting the right people in office. It hasn't happened. I have been – I gave Secretary Chertoff the benefit of the doubt. When he came in, he talked about I need to reorganize and put my team – and I said fine. Well, he was four months late submitting that organization and it was only after continuous prodding by many of us on the committee did we get it. And then immediately after we got it, we found out that the system still does not build in any more accountability from an emergency standpoint, but in the other agencies. Individuals in the private sector tell us all the time, "If I invest in new technology, why can't I get DHS to at least give me an opportunity to present it?" DHS is not as robust as DOD in terms of new technology and so consequently individuals are saying, "Well, I might not put the money into R&D because I don't know when the return will come back if I can't get anyone to talk to us." We constantly face that struggle.

And I was about to say that I am a little disappointed with the secretary and each day I grow more disappointed with his performance. He's a nice guy, but I think what we absolutely have to have is someone who can present the big picture for that department and I am not certain that he is the one.

Q: With respect to the long term recovery, there are organizations in place at the local, state and now a special federal person put in charge of Gulf Recovery. Are you confident that they are organized properly and this is going to go forth more smoothly than the response?

REP. THOMPSON: Well, no I am not. Let me tell you why. Each state has an individual recovery organization. Now we have a federal czar who has the responsibility for doing that. Everyone you talk to indicates it will probably take about 10 years for this recovery. Well, that's all things being equal. I'm not convinced that all the people who have the interest and concern to help have been involved in the process.

My governor put together what he called a blue ribbon panel of experts in Mississippi. Well, the first thing that I recognized with this blue ribbon panel is that with the exception – it was about 35 people; 34 of them are white males and I said in a state that's 40 percent African-American – and I said, "Governor, this is not how you rebuild a community." And so then we started getting other people involved. The caveat that I saw lacking is the church community was not involved, the labor community was not involved, the advocacy community in general, the environmental community – anybody that he saw that would be a problem. Do you understand? That means you wouldn't be led around by whatever somebody presented to you – didn't get included. So what we're having to do now is work parallel to that entity to get those groups that were left out of that process still brought in. The church community is absolutely vitally involved in what is going on. Labor has significant assets, financially and experience-wise that they could bring to the table. But we have to do it.

The other situation we're running into now is the speculators are coming down offering people – you know, since the insurance companies have messed people up – they say, "Well, we'll give you \$10,000 for your lot." Well, to somebody who's just been jilted by their insurance company, they look at \$10,000 as being better than nothing. And so ultimately if those deep pockets show up, then the character of the Gulf Coast, the character of New Orleans will never come back. And that's why those communities that have been left out of this process, I think, would want to do the right thing by keeping the character and the people, if they desire to come back, in place. And gentrification for a lot of those communities would not be in their best interest.

Q: Thank you, Congressman, for all that you are doing to bring sanity to this process. I work for a security budget watchdog group. You said in your remarks that disaster preparedness systems need help in this country. And so that means that lots of things are needed, but one thing is resources. Can you comment on how you think that our failed – somewhat failed response to Hurricane Katrina might be reflected in the FY-07 budget resolution for priorities?

REP. THOMPSON: Well, we'll do 07, but we'll talk about prior cuts to. We lost \$500 million out of the FEMA budget allocation based on just the administration deciding that it wasn't a priority. What we've had to try to do now is piecemeal resources back into department, but the 07 budget is still woefully inadequate. We can't put together the interoperability situation. We try on the Democratic side to present an authorization substitute that would fully fund the needs of the department. Obviously, we got shot down. Many of that would have provided the monies for inoperable communications in this country. It was a defeated. We would have provided first

responders with the necessary equipment to deal with situation. We would have provided for port security – a number of situations that lend itself to vulnerability in this country that we've not been successful in getting.

We get a lot of conversation from this administration, but when it comes time to putting the money where the conversation is there's a real disconnect. And we are trying right now to put some of those dollar figures within the border security budget. I made a – I will lose a vote in a few minutes to fully fund those items listed in the 9/11 bill, and I'm certain I will lose it on a party line vote. Democrats historically have said "Well, if learned individuals have gone and studied this situation and come back and we pass legislation in response to that package, then the next thing is to put the money where it is." Well, we haven't done it. And I can make it simple: I'll just stick it for border security purposes in this and probably about 10:45 this morning it will be DOA.

MR. CROWLEY: We'll take one more question.

Q: Congressman, again, thank you for your time. I'm Geoff Abbott I'm a captain in the United States Coast Guard currently serving as visiting senior fellow at the Homeland Security Institute in Shirlington. My question is, I had the opportunity to deploy for Katrina and for Rita and served in New Orleans and Baton Rouge and Austin, Texas, with the PFO offices there. And the impact has profoundly affected the country. I've got two boys in Scouts and as Americans how can contribute beyond just writing checks, which is significant – you know, resources, but especially for the youth of America. How can they – they want to do something, where might they be able to contribute both now and in the future of possible career paths?

REP. THOMPSON: Well, first of all thank you for the job you do and as you know I singled out the Coast Guard for the good job they have done and continue to do. And I'm going to be one of those advocates for the Deep Water Program, so it's absolutely important. Young people need to be involved early. Scouting, any other organized activity. We've had church groups to hold bake sales, to work with local charities. And it's not so much the charity that we all know about. There are just some little people out there that are doing good things in the community that maybe you need to identify. We put a number of church and other groups with other groups and communities, so we paired young people in church groups together. Young people need to know that at an early age they need to do something to help human suffering, so whatever it is – if it's putting clothes together, just don't let them put them in a bag. Make them sort them. So when you're sitting them down it doesn't take longer to sort them then it does to put the package together.

But young people in any organized effort, in any organized way – I saw firsthand the Scouts in my community, members of the 4-H club, other youth groups who just kind of came out, provided direction. Some read to the children of the Katrina victims. But now what we need – we still need groups going to the area showing that you care, so if you can get groups to go down, if you can still get individuals to send things there are still people who just absolutely don't have anything to go with. And you can't imagine

the shock of being told you've got to get out of this hotel by December 1. That is – for the richest country in the world to just evict people who don't have anywhere to go is not what we ought to be about. And so those of you who have the time, I think you ought to let somebody know that there ought to be plan, and it should not just be an eviction, for those individuals. I mean, we're going to do all we can, but the public really needs to help.

Apart from that, I appreciate the opportunity to come and Jessica Herrera is the staff director for the committee. She was impacted by Hurricane Rita. She is a South Texas – well, South Texas/Louisiana girl. But it's always important that we stay on the case. If we can ever help you on the committee, feel free to call us. I know whenever I make that statement staff kind of ducks because they say, "Oh, here we go again." But at this point our doors are open. We accept ideas gracefully because we want to make this country as safe and as secure as possible.

Thank you very much.

(Applause.)

MR. CROWLEY: We'll take about a 10-minute break as we assemble our first of three panels, so we'll reconvene in 10 minutes. Thank you.

(Break.)

First Panel: Communications Infrastructure Security

MR. CROWLEY: In today's conference, we decided to focus on three sectors of our critical infrastructure that were profoundly affected by Hurricane Katrina, the areas that are vulnerable to damage and destruction through natural or potentially terrorist means, but also areas that have capabilities are important to our ability to respond and recover from disasters. Success means that we're able to minimize the impact on individual lives, our sense of community, and broader economy. Failure means lives are lost or permanently altered. In a terrorist scenario, success or failure determines whether we achieve our strategic objectives or terrorists achieve theirs.

In our first panel, which I kind of nicknamed the WWF panel because this is going to be a pretty lively discussion, we have assembled a diverse range of experts who will discuss the need to make communications networks more resilient, adaptable, and interoperable, but they'll wrestle with questions of technological promise as well as engineering limits; how policy issues ranging from allocation of spectrum to private sector liability will shape further developments and the challenge of first responders not finding – and perhaps there's no technological silver bullet, but learning how to function in a degraded communications environment, developing dynamic networks based on

whatever survives the disaster, and having sufficient spare and mobile capacity to restore lost capability as quickly as possible.

And the guy who's going to – the referee, if you will – the Honorable Tim Roemer, we're thrilled to have him here, as he's president of the Center for National Policy, a distinguished fellow at the Mercatus Center at George Mason University, and a trustee of the National Trust for Historic Preservation, but I think most of us got to know him real well as a member of the National Commission on Terrorist Attacks Upon the United States, or what we call the 9/11 Commission, and now part of the 9/11 public discourse project, which I can't think of a more fitting way in which a distinguished public servant can continue to serve the country in this capacity.

But Tim, I'll turn it over to you and you can introduce the rest of the panelists.

TIMOTHY ROEMER: Thank you, PJ. I want to first of all thank you for the very generous introduction and now the responsibility to referee and engage these three genuine experts in the technological areas of interoperability and how we can improve broader communications in the architecture for the public and the private sectors; also, how we engage the elected leaders with their responsibilities at the local and state level. This is not just a political will issue, nor a leadership issue at the local or state level. This involves a host of different technological issues which we'll get into, and we have the right people to do that here on this panel. I'm honored to be with them.

I also want to thank the Center for American Progress for hosting this particular venue, and John Podesta, the leader of the Center. I worked with John as a member of Congress when he served as the president's chief of staff, and he was not only one of the most capable public servants and leaders at the White House at a very important time in our history working with him on a host of different issues on reform and improvement in education and fiscal responsibility, but he continues to show that great leadership here at the Center. So I'm honored to be here.

I can't help but start my remarks by talking about something that just recently happened to me. I was down in Houston, Texas, speaking on national security issues, and doing, P. J., some follow-up from the public discourse project on the 9/11 Commission, trying to travel the country to get the American people informed and engaged about what's been done and what's not been done by the White House and the Congress to make the country safer. We passed about half of the reforms on the 9/11 Commission. Many of the most important reforms, one of which we'll speak of today, on providing public radio spectrum for first responders has not been done yet.

The weapons of mass destruction – we had three particular recommendations. Those have not been implemented yet, so Congress and the administration are getting some of the lowest grades for performance in some of the highest-priority issues and failing to better protect and secure this country.

I was down in Houston talking about some of these things, and I had some time to go visit a school. And the school was an elementary school that was opened to take in some of the Katrina school children that had been displaced by the hurricane. And I went in and they had reopened this school that had been closed months before, the Frederick Douglas school, and it was full of 300 to 400 third and fourth and fifth-grade students, and they ran up to me, hugged me, big smiles on their faces and started demanding autographs. And I started signing autographs thinking, oh, boy, this 9/11 Commission really makes you popular. You get your face out there. We had a lot of public hearings. This is really something. And the principal was standing next to me. And finally one of the kids, “Yeah, can I have your autograph? Can I have your autograph? What position do you play?” (Laughter.) And I looked at the kid and I looked at the principal and the principal whispers in my ear, “The National League champion Houston Astros were here at the school yesterday with Roger Clemens. They think you’re a baseball player.” (Laughter.)

And I looked at the kids and continued to sign autographs and told them I was a center fielder on the 9/11 Commission to try to continue to get autographs and field their questions.

Certainly we have so much work to be completed and nothing is more important than this issue here. As I go back to the lessons learned from the 9/11 Commission and then to Katrina and then to introduce the panel, let me first start with what we learned on the 9/11 Commission. Just as it is our obligation to equip our soldiers to send them overseas and fight in a battle, fight against enemies – fight against enemies that we know want to harm our men and women in service, so too our first responders in our streets are in a battle today attacked in New York City on 9/11 and in 1993 with a van.

We know that they need better equipment to fight the war against radical jihadists. 9/11 was one attack and we know al Qaeda and jihadists are going to come back and attack this country again. So what are we doing to better equip these first responders who went up the steps to these buildings on 9/11 to rescue people and never came back down, who ran into buildings that were on fire, rather than running away from these building?

We found on 9/11, due to a host of different problems and interoperability, that the chiefs in the North Tower – the fire chiefs in the North Tower could not communicate with those police officers giving them – trying to give them valuable information about the collapse of the South Tower. At 9:59 in the morning on September 11th, the South Tower collapsed and many people going up the stairs on the North Tower could not get the word. They could not get the mayday warnings to evacuate due to problems of strength of signal, due to problems of interoperability, due to the nature of the building material, and due to other problems that we saw and noted in the 9/11 Commission report.

Just as we have to equip our generals overseas with intelligence and maps and good warning systems, we have that obligation here in America to do that for our first responders. We then had three and a half, four years later the lessons of Katrina

happened where a natural disaster with 48 hours' notice came blowing into one of our great cities in New Orleans. Had we improved our interoperability and our communications? We found that human couriers were needed in Mississippi for the National Guards. They couldn't communicate by efficient radio systems often enough. We found that parishes outside of New Orleans were on different frequencies and different radios than the city of New Orleans, and we found similar problems with helicopters up above, the desperate people on the roofs and throughout New Orleans trying to get water, trying to get rescued, that the helicopters could not communicate with the boats in the water. Again, interoperability problems, leadership problems, technology problems, and political will problems.

I would just say that Senator McCain, who I've worked with very closely – we just did an event two weeks ago in the United States Senate – he is trying to address this with bipartisan legislation to provide the public radio spectrum not in 2009, not in 2008, but in 2007. Congress wants to provide this public radio spectrum in 2009, eight years after 9/11. That's unacceptable, it's unresponsive, and makes our country unsafe. We would hope the political will would be there at least on the 700 megahertz public radio spectrum to provide this for our first responders.

Although we know, and these experts will tell you, there is no silver bullet. There is no single answer. There is no Johnny-one-note on this. They will tell you some of the challenges and some of the opportunities that we face ahead.

With that background from 9/11 and Katrina and the political landscape on Capitol Hill, let me introduce our distinguished panelists. First of all, Mike O'Dell is a venture partner at the New Enterprises Associates. Mike came to NEA from UUNet Technologies, where he was chief scientist responsible for network and product architecture during the emergence of the commercial internet. Mike has also worked for Belcor (ph) as a U.S. government contractor. His first startup created a revolutionary first tech search engine, which was 20 years ahead of its time. He was founding editor of *Computing Systems*, and international refereed scholarly journal. Mike received his BS and MS in computer science from the University of Oklahoma. Please give a generous welcome to Mike O'Dell.

(Applause.)

Art Botterell has more than three decades of experience in disaster response, public information and mass media. He served as a public information systems specialist for the Federal Emergency Management Agency and as a communications manager for the California Office of Emergency Systems. He now consults on emergency information systems design in the U.S. and even abroad. He was the architect of the Common Alerting Protocol for integrating public warning systems, and one of the founding trustees of the (not-for-profit?) partnership for public warning. Mr. Botterell describes his work as “exploring the ways people use technology to cope with sudden change.” Please give another generous welcome to Art Botterell.

(Applause.)

And also Dave Farber is widely considered a grandfather of the internet, and in particular because many of his students are well-known internet leaders. Dave is a distinguished professor at Carnegie Mellon University and has served as chief technologist at the Federal Communications Commission. In addition to teaching at Carnegie Mellon, Dave was on the faculty at the University of Pennsylvania, where he taught at the Wharton and Annenberg schools. I'm not done yet. His early academic research has focused on creating the world's first operational distributed computer system. Dave has also worked at Bell Labs and the Rand Corporation. He holds an honorary doctorate from his alma mater, Stevens Institute of Technology, where he also serves as a trustee. He's served on the U.S. Presidential Advisory Board on Information Technology and he's on the advisory council as a director of the National Science Foundation. Please welcome Dave Farber.

(Applause.)

I always know I'm in deep trouble moderating a panel when their credentials are longer than my talk. I'd like to open it up to Mike, if we could. Mike, if you'd start. And P. J. instructed me to try to keep you to about seven or eight minutes, and then we'd have some questions and time to talk between each other, and then welcome some participation from the audience. Mike?

MIKE O'DELL: Okay. Thank you. Is that the sound check? All right. It's a little weird for me to be doing this, because these days I'm a venture capitalist and before that I was an engineer building networks. And I've sort of got – I got asked to do this, because one of the folks here said, "You're the only person I know that's ever built a national-scale infrastructure," so I had to plead guilty to that. So I want to – and when we first started talking about all this – and I sort of come at this with an engineering point of view, and that's a little bit of hard-nosed reality in terms of what's doable and what isn't. And sort of the engineers are the guys that get stuck with making it happen, regardless of what the laundry list says you want to have happen.

So I guess the piece that I – my first reaction to push back on a little bit is the attitude that if we'd just done X, Y, and Z better, it would have all been okay. I think that's – frankly, that's crazy talk because one of the things – once you – if you start building things at large scale, one of the things you discover the hard way is no matter how much money you spend, nature can break it. And just because somebody promises you that this was a once-in-every-500-year event, that doesn't mean you get a pass for 499 years. Right? Because the 500-year event is just as likely tomorrow as it is 100 years from now. Right? It's not very likely, but it's – but the probability is constant.

I had an interesting episode where we thought we'd done a really good job building a piece of network infrastructure in Atlanta, and in fact another hurricane came through and taught us a lesson because even though we had backup generators and all sorts of things like that – done a really, really excellent job, but what happened is that the

hurricane ripped a tower which was not – was no longer used, in fact – ripped it off the roof of the building and threw it down on the generator shed.

Now, the generator shed actually survived. That worked fine. The problem is the exhaust stacks from the generator went up through the roof, and when the tower mashed the exhaust pipes, the generator stopped. So it's real – as a way to put it, Stephen King's imagination is actually not adequate sometimes. But what this gets back to is that failure is not preventable. Failures happen, so the question is, you have to adopt an attitude of designing to cope with failure, as opposed to simply trying to outlaw it.

Now, that's not to say you shouldn't do a lot of – you shouldn't work really hard to make systems robust, but the question is do you engineer yourself into what we call brittle failure? Brittle failure is when a system works really, really well up until its breaking point and then it shatters into a million little pieces such that none of the remaining pieces are useable and you basically have a complete collapse. It's – we found that it's usually better to build systems that degrade gracefully. And maybe pieces break and fall off, but that piece may be reusable and what survives may be reusable. That's – those are more survivable strategies because the goal is not to build – if you admit that you can't build something which will survive anything, then what you engineer for is that in the aftermath of – when it comes – when you – when the clouds part and you look around the landscape at what's left, right, can you take what there is and make something that's useful? Can you do it anyway? So you engineer to create options when all the plans fail.

It's not an excuse for not planning, okay? You don't get off the hook for not planning and planning really well, but part of the planning has to be what do you do when all the plans fail? What do you have left to work with? Because if you have left with nothing in your pocket, then you are in really deep kimchi.

And I think one of the things that you found – that happened absolutely in Katrina is we saw a remarkable demonstration of what I call networking with found objects. There was a bunch of network infrastructure that was basically put back together with parts that literally came from Staples. And it turned out that for whatever miraculous reason, the internet connection out of the hotel where the mayor of New Orleans and his team were staying, the internet connection out of there was still working. The phone circuits weren't working, but for some reason packets were getting out. And it turns out that the CIO, right, went home and got his packet telephony box and brought it in and plugged it into the ethernet, and lo and behold, he could make a phone call. And after that worked, they went out and acquired – we won't go into the details how – but they went out and acquired a bunch more of those said boxes and that's how they reconstructed telephony out of the pieces they had left.

Likewise, another good friend of mine, Marty Schoffstall, who is the founder of PSINet, he's been doing a lot of work around Harrisburg, Pennsylvania, lighting up the area doing the municipal Wi-Fi thing, and he has several portable Wi-Fi sites that are

mounted on trailers and pop-up antennas. So he actually took that sort of down into Gulfport and helped reconstitute that.

But the thing that's unique about all of this, and this gets back to the first responder, is the characteristic of this technology that turns out to be really good for this kind of *in extremis* operations is the fundamental, central notion is dynamic group forming, and this happens at all levels in the structure. Turns out that internet technology fundamentally – the protocols are designed so that things find each other and start talking without humans helping. And basically, you can hear the other guy. You can actually start sending packets. And so this – but this notion of dynamic group forming applies up and down through the whole as an architectural touchstone applies up and down the stack. Because it's not merely – it's not sufficient for everyone to be able to talk to each other, because that's called – that's a crowd, that's chaos. The trick is that the right people have to talk to each other at the right time, and the plan – that's a time-bearing function, right, that an hour from now it'll be a different group of people than it was 15 minutes ago.

And, again, there are no technological silver bullets, but there are some technology sources – technology choices which can be made which make that kind of behavior easier to produce, and that's sort of the engineering prospective. There's a bunch of other things to say along the way, but I'll cede the floor now to other folks.

MR. ROEMER: Mike, thank you very much. I think I found a segue to go to Dave.

DAVE FARBER: I'm last.

MR. ROEMER: You're last? We'll go to Art and, Art, Mike has just talked about the dynamic group forming – finding each other without needing human beings. We still need human beings to do panels, so take it away, Art.

ART BOTTERELL: Thank you, Congressman. My professional career has been a series of panels that I participated in with people whom I feel like I know well, but have never physically met prior to, in most cases, a few minutes before the panel. So this is very much in that tradition. One of the marvels of the internet is precisely this ability to create these communities of interest.

You can go to the after-action meeting after any disaster or any disaster exercise. You can pretty much go there armed with a rubber stamp for your critique form, and the rubber stamp is going to say, communications were a problem. As the designated stuckee for communication problems for a large chunk of the state of California, this obviously was of concern to me. And so I started trying to tease apart exactly what that meant and why we had this sort of Ground Hog Day experience where we kept having these same problems, no matter how much technology and how much energy we brought to bear.

Eventually I parsed communications into four layers. The technology fundament, which is what we sometimes think we're talking about when we say communications, but that enables a set of procedural patterns – behaviors – which are, of course, powered by human factors and resources, which exist within the contexts of organizational structures and agendas. And if you look at that as sort of a layer cake, two interesting things emerge. The first is that the perception of problems tends to propagate downward through that model so that whether we're talking about organizational disconnects or human overstress or inadequate procedure, inevitably the message winds up being the damn radios didn't work, and then we buy more radios and we come back with our rubber stamp for the next time because we actually were fixing the part that was perhaps not broken at all, sometimes least broken.

The other thing that I discovered – took longer to realize this – was that change propagates upward through that stack. New technologies create new procedures, change the needs for human skills and attitudes, and ultimately lead to adaptation at the organizational level. For example, many of us have been doing this long enough that we recall when word processing was brought into large organizations. It was brought in by analogy to typing, so where did they put it? They put it in a word processing pool.

Ultimately, they began to discover that this new technology had a quality of its own and we began to adapt our organization, and that's why very few of us have the luxury of secretaries anymore. But, yeah, so technological change is not inherently good. It can cut both ways. (Laughter.)

Two other quick things before I dive into my prepared 35,000-foot deck. First off, you were talking about emergency planning. The thing I've learned is two things are important about a plan. The first is to have one, the second is not to take it too seriously. Who was it, the German general who said the thing about no plan surviving contact with the enemy. A lot of wisdom there, I think.

And also, Mike, I wanted to respond to what you said about failure not being preventable. My highest level sort of political statement is that I think there are some fundamental problems with embedding the response to failures within a security apparatus because security apparatus tends to focus on the prevention and views failures as, well, a failure. So saying that a degree of failure, a degree of mishap is inevitable creates a bit of an internal tension that I'm not sure we've totally resolved yet.

That said, let me inflict if not death by PowerPoint, then at least a mild maiming. This diagram – is everybody enjoying this wonderful graphic? This is actually – this is one of these iconic images that you see every once in awhile on the net. An outfit called epodunk.com (sp) accumulated data about where people who had to evacuate from New Orleans wound up and rendered it as this graphic of the New Orleans Diaspora. And I'm going to use that as sort of an iconic image because I think it points to something very important about what we now face. I'm going to push a button and see what happens. That's not what I wanted to happen. (Laughter.) All right. Shazam. Okay.

First off, as Mike points out, infrequent stuff does happen. Now, there's a sort of natural human tendency to confuse low frequency events with low probability events. They are not the same thing, and the difficulty is that there're some formulas for dealing with the discount, the financial discount that you apply to something based on its probability. Well, probability and frequency are only conflated if you assume a particular time frame and that, of course, is the problem that we deal with. We tend to have a very narrow time frame. Our bookkeeping practices encourage that, our political cycles tend to encourage that. Human nature tends to encourage that. So there's an unrealistic level of discount applied to things that happen on intervals of less than two, three, five years. There's also a significant factor that a lot of people figure the chances are good they'll be retired by the time that happens, so there's a degree of "not on my watch."

So for all these reasons, there's a problem with applying resources to these low-frequency events, even though we know perfectly well that they're going to happen. Related to this is one of the great – the eternal battle between right and right, which is where the most really intractable problems in the world seem to lie. One of them is the battle between efficiency and resilience because it turns out that all of these efficiencies of just-in-time inventories and flattened organizational hierarchies and economically very high performance mechanisms, that high performance is achieved by squeezing the very slack resources out that we used to rely on to deal with the unexpected. And so we wind up with the sort of brittle failure syndrome that Mike discussed.

Now, there's another political reality here and that's what I call the window of impulse. Every practicing emergency manager knows that about the only time you can actually get funding for emergency management initiatives is right after a disaster, and there's a window of opportunity during which these issues are salient, funds are available, public attention is available, and that, depending on the magnitude of the disaster, can extend for anything from hours to months before the potholes in the streets and the more day-to-day, higher frequency events begin to take priority again.

The reason I call it the window of impulse is one of the reasons – one of the effects of this is that after a disaster there tends to be a lot of fairly impulsive behavior, particularly impulsive procurements. In fact, experienced emergency managers know to have their pet proposals already written up, and then they just wait for the disaster that will fund them because they know that's the only time it's going to be funded.

Regrettably, that tends to lead to some sort of poorly planned and poorly integrated actions sometimes. Motives are the highest; everybody's trying to do what they think is right, but there is a tendency to do things that don't always glue together. And I think a lot of the inefficiencies that we've seen in emergency management over the years have been directly related to that lack of consistency and that sort of impulsiveness of the programs.

One of the things that the internet has taught us is the importance of a concept called the end-to-end principle. The end-to-end principle says that you let people deal with each other and get the technology out of the way. Ultimately, networks aren't built

out of wires. They aren't even built out of electricity. They're built out of trust. They're built out of trust relationships. And so you have to have transparency between the end users in order to have the trust. Now, this is just as true in community building as it is in building markets, depending – both frames of reference. It's all about building these trust relationships.

The difficulty is that there is a model of communications that says every – I'm going to run everything through my big switch, through my value-added system, and the problem is that really what's happening there is that somebody is extracting value from the marketplace by doing this mediation. That – we can talk later about how this principle applies to specific instances, but I just want to flag it because it's one of the recurring themes that I see.

Ultimately, as technology is becoming more complicated and sophisticated, we've seen emergency managers moving from being owner/operators of technology to being consumers of technology. And this raises the question of how effective they are as customers.

One of the things I discovered when I first came to Washington was the phenomenon of the wholly-owned program manager who only knows about his field of endeavor what his contractors tell him. We have a problem about sources of information. Right now in the technology field information transfer to the end users is almost entirely vendor driven, and that's not always entirely transparent. We don't have strong independent sources. We don't have a *Consumer Reports* for a lot of this sort of thing. And that's, I think, something we're going to have to watch rather carefully as we move into this reconstruction phase.

The network way – I'm sort of a lukewarm West Coast Buddhist – open information highways. We need to make sure that we keep open access through open standards. This is just how we implement that end-to-end principle. Nondiscriminatory routing: this gets into some of the issues with particularly cable, IP, and some things. And a balance between the needs for identity and privacy. It's not a matter of either/or. It's a matter of how we balance both. If you have total privacy, you have electronic mail and you have spam, because there's no authentication. If you have total authenticity – or total identity and authentication, then you begin to get the degree of groupthink, so that needs to be balanced properly.

But the main thing is the transition from a value model based on holding – the old knowledge-is-power model, holding information separate and product differentiation and I've-got-a-secret sort of models to the idea that power is a conversation. It's information in motion that generates value. That's the network way. That's the basis of network economics. I think by now most people get it, but we still see pockets of people who think that they're going to lock in a particular market, differentiate it, and that that's somehow going to create value for them.

MR. ROEMER: I need you to start to wrap up to move to Dave.

MR. BOTTERELL: I will wrap. I think we need to bear in mind that emergency response is not merely a matter of throwing resources at a problem; it's also a matter of supporting the decision-making processes. I thought one of the great tragedies of the Katrina response was that it managed to turn into an adversarial relationship between federal authorities and state and local authorities. That should never have happened because, in my opinion, part of the federal responsibility is to help the state and local authorities deal with this several orders of magnitude influx of resources, not just to dump resources on them and then point fingers at them for not being able to manage them. No local agency has enough disasters to be able to fully maintain a fully capable emergency management organization.

I'll end on this slide, I think, which is that as we move into the recovery, the issue is empowering a local vision for community, and that means we have to be explicit about how interests are prioritized. We need to protect that local vision from the powerful currents of politics and global business and the risk that we heard from our earlier speaker of a sort of 21st century carpetbaggers coming in and taking advantage of this tragedy.

There are some things that we can do going back to that image of the diaspora. I'd like to see us using the internet more to help keep that community together and involved them in rebuilding, but I'll yield and we can perhaps dig into that a little more later.

MR. ROEMER: How about digging in here, Dave? Why don't you give us about seven or eight minutes, please?

MR. FARBER: Okay. I may cut it a little shorter than that. I was asked to sort of pick up the pieces after the previous two speakers and disagree with them. Well, I find it hard to disagree with them, so I'll launch into a slightly different direction.

It's interesting. There was a comment here about the need to get information and to get that information distributed in a trustable way. I reflect back on 9/11 which – where I saw an interesting phenomenon. I, as other people, run a fairly big mailing list. This one happens to be a very strange one in the sense that it has a lot of technically astute people and a lot of reporters and a lot of other things like that. And it provided a pipe out of Manhattan at times – during times when nothing else was available. People were sending mail almost minute by minute saying what was going on, and was distributing it out to about – roughly now, about 40,000 people. And that provided an information flow that was very ad hoc, extremely ad hoc, but something that the utilities couldn't provide. It used the internet. It used cell phones, cell phones operating as portable laptops, it used laptops, it used whatever people could find that worked. And I think that reinforces in some sense what Mike said.

We now have a lot of technology. All of us here are carrying about – around broadcasting stations. We all have Wi-Fi on our laptops. We all have the ability to get

telephony on our laptops. We can send email through it, and we have certainly the technology and sometimes the will to allow these things to sort of hop between whatever path they find until they find an internet connection someplace where they can move.

Down in New Orleans it was interesting that the – in many of the universities down there, even though they were severely damaged, their broadband internet connection survived. And in fact, they were communication hubs that were functional during most of the time almost from the first moment the hurricane hit and continued to operate, and yet it was very difficult for people to get at it because of a whole set of security mechanisms that have been put in place to make sure inappropriate people didn't access the campus facilities strongly suggesting that maybe we need a different approach to critical resources like that turned out to be as sort of the panic switch where you turn it and anybody can use the facilities during that time. People did use the internet. They did find ways. The hotels, their coffee shops that survived, people found ways to communicate.

If you look at the research community and I'm going to put on a researcher's hat for a few minutes, talk about the future, we have technology coming out of our ears potentially. There's a lot of really good work going on in very sort of mesh networks, things that allow us to build our own communications system. In spite of a tendency of the commercial carriers, the (IWAX?) and the cable systems to sort of try to clamp down on our abilities to actually use the facilities they supplied to us for what we paid to use them for, which was open communication, but hopefully that won't get worse than it is now.

We have a lot of research going on. There are some very interesting future directions. Unfortunately they're – in the present environment, there are no real good test beds in the civilian sector where this research has been transformed into experimental attempts to make things happen, to take a city. There are some examples coming down the line, but take an area and see what's the best of our technology can do to provide survivable communications. There are a lot of reasons for that. Some of it is – I blame some of it on a total disconnect between the White House and the technical community.

I served on the PTAC1, the Presidential Information Technology Advisory Council under the Clinton/Gore administration, and we had access to the White House in a very intimate way. The second PTAC got fired for all practical purposes. There's a lot of things we could do and a lot of experiences we have, and I commend that what Mike said is very accurate. It's going to be an ad hoc situation, and ad hocery (ph) gives you an awful lot of power. I think I'll defer until the questions come in and we can focus a little more.

MR. ROEMER: Well, thank you to all three of you for terrific presentations. I want to pick up on something that Mike said. The 9/11 Commission found one of the basic four failures was a failure of imagination, and Mike mentioned, by quoting Stephen King or mentioning Stephen King, that imagination is not adequate sometimes for what might happen. I'd like you to talk less in engineering terms maybe and more in talking to

our audience and providing examples for how we build this broad communications architecture that is more resilient to survive a catastrophe.

Mike, if you'd go first. What kinds? Can you mention some of the portable Wi-Fi, the vans, the pop-up radar? How do we go at creating a decentralized web of communications that really isn't that vulnerable to what you've mentioned, that uses the imagination, and is kind of a more robust and resilient system? Mike?

MR. O'DELL: Well, certainly the fundamental IP technology that drives – that's let the internet grow on the way it's done is, I would argue, the proof by construction that that can happen. In fact, having been married to a phone company before, the reason the internet works is because it isn't provisioned. Provisioned is a phone-speak word for geologic age. Mountain ranges are born and die in provisional intervals. But this notion of technology that is naturally sort of friendly to itself, that it finds its buddies and starts communicating, it assumes that communication is the default mode of behavior, not wait a minute, I'm not sure I've gotten the memo that says it's okay to talk to you. All right? Because, in fact, the guy that's responsible for sending that memo is probably gone in a sufficiently bad circumstance. In fact, Vince Serf, one of his children, one of the fathers of the internet – I was at a conference where Vince was talking about – it was about an obscure distributed system conference. But in Vince's inimitable way, he said, "You know, McClellan Air Force Base might be holding a lock on a database and it just disappeared and it might never ever come back, so we have to make it work anyway," like – I mean, you have to sort of think about that.

Again, there are technology choices that we can make and, again, Wi-Fi is certainly one of them, radio technologies, and all that's – the spectrum issues, all that gets involved. All of those things are useful pieces, but again, as a general design rule, the fewer things you leave out – the fewer restrictions you leave out, the more opportunities you have to make it work. And again, the exercise – the design exercise here is making sure you have alternatives, not that you have the answer because there is no "the answer."

MR. ROEMER: Okay.

MR. FARBER: Yeah, I wanted to make a comment on what could be done. I too, by the way, grew up in your friendly big telephone company, although the Bell Lab's version, but I'm one of the few people who actually managed to walk under a manhole, which his an interesting experiment (inaudible). A lot of our problems in the radio world stem from an archaic and poorly evolved spectrum management regime that's been sort of frozen in concrete in this country for too long. When I was at the FCC, I think there was uniform agreement among the techies and the policy guys below the eighth floor, for those of you who know the FCC – there is no eighth floor, but it's called the eighth floor for reasons I won't delve into – understood that, in fact, one could do miraculous things if we just rethink the whole spectrum management area. Again, we talk about precious spectrum at 700 megahertz – well, whatever it is. The spectrum is empty. It's very, very sparsely occupied, but there are barbed-wire fences around big sections of the spectrum, and those barbed-wire fences represent for practical purposes ownership of the spectrum

by companies, by utilities, whatever it is. And you might as well forget the fact they're licensed and you can take back the license. That's essentially been shown not to work very well.

Rethinking spectrum policy – and several of us after we left the FCC wrote a paper which largely reflected the staff's point of view and our own that could give a spectrum in very, very large amounts in a very flexible way that could stimulate the building of a totally new approach to wireless communication and maybe give us a very resilient base on which to handle emergencies. If all of us were capable of being spectrum rich, we could do a lot better things with –

MR. ROEMER: When was this paper written, then?

MR. FARBER: It's been about two years ago and it's still the bestseller. We keep get – it's on one of the not-for-profit websites, or if anybody wants to send me a message I'd be happy. It was co-authored by Jerry Faulhaber and myself. Jerry was chief economist at the FCC when I was chief technologist, and I think it, again, represents the view, a large bit of the staff there, dave@farber.net, if anybody wants a copy.

MR. ROEMER: Art, do you want to engage in this or –

MR. BOTTERELL: Well, oh, absolutely.

MR. ROEMER: All right.

MR. BOTTERELL: Absolutely. The first thing I want to do is echo what Dave is saying. This slide into treating spectrum as real estate to the point that broadcast interests are now required to carry the value of their license on their books – there's argument about exactly how that value is supposed to be calculated, but the point is the FCC is requiring them to treat as though it were an owned asset something that the Communications Act of '34 says isn't an asset, but as a practical reality is.

And unfortunately, in this age of spectrum auctions – for example, what's going to happen to the rest of that 700 megahertz spectrum? Well, it's going to be used to fund a lot of these projects. Okay? So what we have is both the licensees and the licensor invested in the idea of spectrum scarcity, which in a way is exactly where we didn't want to wind up, so I think that that's a fairly deep problem. Not an easily broken cycle, which is where we wind up having to resort to consumerism and hopefully informed consumerism in a way perhaps we shouldn't even have to do that.

I did want to touch on a couple of other things that I think are important in reaching this vision. First, I mention the whole issue of trust, particularly in a disaster. One of the things that has to happen is that new trust relationships, new working relationships have to be formed. That's really what this ad hocery (ph) is largely about. I think we need to look at what are the obstacles to creating those trust relationships, one of them simply being problems with identity management. How do we know that this

person is who they purport to be when on the internet nobody knows you're a dog? We need tools.

Now, that doesn't mean that everybody has to be purporting their certified identity all the time, but it would be nice if there were mechanisms widely available and widely accepted for managing that when it becomes an issue of building trust. There is also an interesting issue about reputation systems, but that's for beer time, I think.

I think we need to also focus on usability. There's a tendency to build infrastructure and then provide sort of minimal user interface that the market can bear and stop there. And what that means is that marginal marketplaces tend not to be served. The form factor of the two-way radio, for example, has become an end in itself with a lot of public safety people who are very familiar with that form factor and have procedures built around that form factor, so that we wind up having to – it's quite possible to give people sort of a Star Trek style communicator badge, but there's evidence that it wouldn't be well accepted. There are also a lot of people, particularly people involved in the Katrina diaspora for which the expense and the textual presentation and various aspects of the user interface are not really well suited. I think we need to look at usability issues now that we have a lot of bandwidth. Just providing enough bandwidth doesn't really solve the problem.

Finally, I think there's an attitudinal issue here, and this comes back to the very first point that Mike made. One of my sort of sacred books in my life is Kevin Kelly's *Out of Control*, because the point he makes there is that there's a point of – there's a level of complexity at which you can only move forward by giving up some of your sense of control. Now, in an anxious post-9/11 world, we tend to be, I think, sort of clutching to try to reestablish control of a world that sometimes seems out of control. And I think one of the things that we're hearing there is that part of what we need to do is develop attitudes that are more tolerant of uncertainty, that can let a certain amount of unexpected stuff happen without trying to precontrol it because otherwise that – the necessities of that control mechanism limit the sophistication of what we can do. And again, that's very broad and philosophic, but we could spend hours taking it down to the technical level.

MR. ROEMER: Mike, you want to jump in on that point?

MR. O'DELL: Well, just – yeah, because it actually dovetails into another point I was trying to figure out how to make. Part of dealing with this is actually to practice. And certainly the professionals in the emergency response community understand this, but there are other organizations about – I'll plug – a ham radio operator. And one of the things hams do is we regularly practice constructing out of whole cloth communication networks. And in fact, there's several – there's a hurricane watch network. There's the so-called (sonnet?), which is the self – it's a health and welfare network for basically after major events getting health and welfare, are people still alive, that sort of stuff, in and out of areas, and the hams actually do this pretty well.

And the reason why do it reasonably well is because they do it – they practice. Several times a year people actually go out and say, well, what if – let’s go operate from a generator or a battery or this. I mean, this is well-known stuff within the community – within the emergency response community, but the issue is that maybe part of this attitude notion is to sort of like, well, maybe at some point I’ll actually have to respond to an emergency, even though I’m just Joe Beets (ph). And everybody – there’s – you can get that lip service, but at the same time, you have to tell people what it means to do that, and that’s – I think there’s been a disconnect there.

MR. ROEMER: Let’s go a little bit further on this point because I think it’s a very interesting part of this. Mike again started talking about robust systems required and systems need to degrade gracefully and we need to engineer to create options, and he used the example in Atlanta. Now you’re starting to get into what people need to train for. How do we develop the dynamic adaptability? What do we do through planning and exercises so that you throw in the twists and the turn scenarios and you get this creative dynamic response (to?) a Katrina or a biological or chemical attack? Give me some examples of how you might do that. Dave, you want to –

MR. FARBER: I’m going to hit the other side for a minute. I don’t have long experience in Washington. I spent a year here and I discovered something, which will probably make some people unhappy when I say it: that a year in Washington was absolutely wonderful. More than a year, you might believe it’s real and then you’re in deep trouble.

The tendency of this town to punish people who take chances if they don’t work sort of make it fails – puts people into a very fail-safe environment. Why take chances? Follow the rules. I’ll keep my job. I think fundamentally if you want to have them – the flexibility and the experimentation between people, somehow you have to cure that problem. Somebody has to be able to do something, and if it doesn’t work and it doesn’t maybe blow up the city you say, “Well, we won’t do that again.” This town doesn’t encourage that and so you get just the completely wrong direction.

MR. ROEMER: Good point.

MR. O’DELL: In the private sector, that’s – there’s a huge difference because –

MR. FARBER: Yeah.

MR. O’DELL: In that sense, because a bunch of the guys that worked at UUNet came out of GE, just part of the GE mafia, and the management training there is very interesting. And it’s – I think it’s pervasive through that organization is that you will not get fired for making a hard decision and doing something and it failed. What you will get fired for is standing there and watching the building burn down because the fire extinguishers haven’t been approved yet. That will get you fired. And that’s a very different attitude. That’s important.

MR. ROEMER: Art, you want to jump in on this one? Again –

MR. BOTTERELL: I'm not sure I have a lot to add to this except to say that one of the issues that sprang to my mind when you mentioned this was that the professionals in this field have a degree of investment in their professionalism that I'm afraid frequently gets in the way. The extreme example of this is what we refer to in the business as the emergent volunteer problem, which is all these – this very genuinely human need of people to become involved when they see others in peril or being hurt, and sometimes they do it in ways that we wish they wouldn't, like sending unsorted bags of clothing willy-nilly into the disaster area. But instead of saying, hey, that's a problem that we need to solve also, or saying these people are our resource, we tend to say they're a problem that somehow has to be channeled, and usually it's by trying to bring them into bureaucracies.

So I think that it may – if you look at some of the contributions of the open-source community and the amateur radio people, who you can think of as sort of the precursors of the open-source community, there's sort of a glass ceiling that we run into trying to bring some of these innovations into the formal – whether it's the formal commercial environment or the formal bureaucratic environment.

MR. ROEMER: Well, let's talk about that a little bit. Let me throw out an example and see if you guys would agree that this is somewhat – or it could be applicable in this world in this kind of a scenario and application.

In the intelligence community, this has been covered in the *Wall Street Journal*. I don't want to talk too much about it, but I'll mention how it was referred to in the *Journal* is there is a – kind of an entrepreneurial program that is fairly new to try to spin off new technologies in the intelligence community derived through the private sector because the culture at the CIA didn't encourage it. It wasn't the risk-taking culture –

MR. FARBER: In-Q-Tel.

MR. ROEMER: In-Q-Tel. And In-Q-Tel raises the private money, tries to develop the technology, spin off that technology to the community, and then there are certain financial options that are available to those that have invested in it, too. Are there ways to use that as a paradigm or a model to try to change the culture in this area, too, for government?

MR. FARBER: Make a comment there. In-Q-Tel has done, I think, a very good job. I spent the last two years on the Markle Foundation.

MR. ROEMER: Great place.

MR. FARBER: And in their national security task force, and we've seen changes in the intelligence community and changes there are surprising that they occur at all,

but – and they talk to each other at all, but the will is there and In-Q-Tel has helped lubricate them.

One of the big problems I found as a semi-bureaucrat in Washington is that most of the information that at least by my bosses got – the commissioners got – came from lobbyists, and they lied. Well, let me – they stretched the truth. The lack of independent information, which I think In-Q-Tel helps give, really affects the way that – just the base of knowledge they have. That’s one of the things that I thought a – in the days of the PTAC strength it brought outside information in to policymakers, as opposed to just National Science Foundation. You need to encourage that transfer mechanism and get information in the hands of the people who are trying to do a good job that’s real and accurate, and that’s really hard to do.

MR. ROEMER: Art?

MR. BOTTERELL: I think that that sort of mechanism is extremely valuable if its figure of merit is how much change it creates. Unfortunately, there’s also a temptation to use a program like that as a way to encapsulate and sort of minimize the disruption caused by change, so it’s not so much a matter of how you – whether you have the program. It’s whether the program is actually effecting change or whether the program is actually a way to buffer and prevent change that you have to measure.

MR. ROEMER: Do you agree that the culture is almost impossible to change around here?

MR. O’DELL: Well, when you have senior officials in an administration suggesting that the problem with the rest of the world is that it’s reality based, yes, there’s a serious freaking problem. (Laughter.)

MR. ROEMER: Dave, you want to –

MR. FARBER: Oh, I just – I think one of the things, by the way, that made In-Q-Tel reasonably successful is that it was manned and run by people who understood their customer base, and that was critical. If you tried to do that with people who didn’t understand the intelligence community, they’d produce products that were useless for them. And that’s really – reminds me of a president of a large networking firm who really didn’t understand his business and proceeded to lead the company to its destruction. I’m not going to mention the name of it.

MR. ROEMER: Well, you mentioned the required and requisite leadership that is needed at the White House to lead the revolutionary changes in our cultures and government agencies for the internet – I’m thinking outside the box, changing some of these cultures at different large organizations, especially the CIA and the FBI. Talk a little bit about your frustration with that lack of effort. I know the Markle Foundation has made a series of very important recommendations in this area. It has to come from the White House.

What are two or three steps that Markle and you personally would encourage the White House to do?

MR. FARBER: Well, if I reflect back on the – on why the Markle Foundation succeeded doing things that engaged and brought into the task forces as visitors quite often to our meeting key people in the intelligence community and had people in it who clearly understood the intelligence community by their past activities, so it became somewhat not partisan, even though if you look at the panel members, they were clearly former officials. That – getting that intimate contact and hearing – letting them take part in the debate, I think, had a real impact and – and so we were able to give advice to the White House. In fact, they asked for advice in several cases and it was given to them in a reasonably bipartisan way trying to get – trying to fix the problem, not fix the blame for the problem.

I think in the technology area it's somewhat different. There are a lot of new technologies coming out. And again, if I reflect back and it's less of a partisan issue and more just who was there that in the days of the Clinton/Gore administration you had somebody who was – loved technology. Al Gore was probably more – there was only one person I knew that was more enamored by technology in government and that was Powell from the FCC. I used to get him extremely angry by telling Mike that he was more of a gadget freak than Al Gore, which if you know the (laughter) that's sort of wild. But that's missing somehow. We don't have that type of science advisor or whatever it is. The metabolism is broken there and it's broken to a large degree within the FCC, my old home.

When I left – hopefully not as a result of me being there, I actually wasn't that – the chief technologist's role was never filled again. Actually, we had a candidate, but 9/11 sort of blew that out of the water. And it just never happened, so now there's nobody up at commissioner level – not at commission, but who can talk to the commissioners who can tell them what the reality is. There's nobody at the White House that seems to be capable of or there's nobody wants to listen. I don't know which.

MR. ROEMER: So the intellectual curiosity or the internet curiosity is –

MR. FARBER: Technology into – the curiosity is missing.

MR. ROEMER: Missing.

MR. BOTTERELL: Respectfully, I have to challenge the premise.

MR. ROEMER: Okay. Good.

MR. BOTTERELL: Because I think anybody who has ever raised a teenager knows that there comes a point when the hardest task – the thing that takes the most self-discipline and that is the truest form of leadership is to know when to get the heck out of

the way. And I think that this idea that if it hasn't been led by the White House it cannot happen is itself a tremendous obstacle to a lot of innovation.

A lot of these things will happen if they are not suppressed by, for example, people wanting to stand by and wait and see what the new federal standard will be, and then we wait three, four, five years for the new federal standard to arrive. The idea that there was going to be a federal standard promulgated in the first place – again, motives of the highest; everybody thought they were doing a good thing, but the net result is it actually becomes an obstacle. Frequently, the best standards are ones where you just sort of ratify existing best practice. So I think this idea that perhaps the leadership that we need is the mature leadership that is willing to allow change without, again, feeling that it has to all be controlled.

MR. ROEMER: Let's talk about this specifically. I'd like to have you and Dave engage a little bit in this on a different issue of technology. Let's not talk about first responder or interoperability in disasters. Let's talk about what the FBI did. The FBI tried to initiate a virtual case file system. They spent close to \$300 million on it. That leadership obviously did not come from the White House. That came from the FBI, I would imagine, internally. It was engaged and initiated there. It failed. They've gone back to ground zero. And so what is the role of the FBI and the White House in resolving where they go next? Should there be accountability there? How do you think outside the box? What are your recommendations for the culture, the technology, and the changes there? What –

MR. FARBER: Yeah, I was – he – Mike said it's death by contracting. I spent a significant part of very enjoyable panel meetings, National Research Council. I almost had a career in studies of why the failure – why the Social Security modernization and the FAA modernization failed. They kept trying and kept failing. The FBI was small potatoes compared to how much they spent. The problem fundamentally was the federal procurement system, which is broken badly. It's almost impossible to do the right thing in that environment. The FBI – I consulted with the CIO for a while and I thought that the head was screwed on straight. There's a tendency to buy overly complex systems. That's almost always the case. You have a contractor out there who sort of makes its money on how complicated can he make it. That gives him lifelong employment.

We don't know how to build complex systems, not carefully planned and integrated ones, which the contract and procurement system requires. We can build very large networking systems, because that's not the way you build them. You sort of – they sort of are organisms. And if you get the rules together, they go – right, they all come together.

I think we have major problems with large systems in the government. I don't think there's very many successes.

MR. ROEMER: Art, I want you to jump in, but I also in your answer want you to include talking a little bit about something you mentioned in your remarks, and that was

the impulsive procurement system now that Dave has brought up the broken procurement system. Talk to us about both on the front end of the broken procurement system and on the back end in a disaster how they line up to put forward systems that may or may not even address the problem. What do we do about that?

MR. BOTTERELL: Well, I'm glad you made that connection because I think that's a very important insight.

MR. ROEMER: I'm glad I made one today.

MR. BOTTERELL: Well, you're – we're here to do the heavy lifting. (Laughter.) In Washington – again, when I sort of did my Mr. Botterell comes to Washington period during the mid-'90s working at FEMA, one of the phenomena that I identified, I came to refer to it as the standing high jump. And this is a bureaucratic maneuver: when you don't really want to do something, what you do is you expand its scope and you continue to expand its scope until everybody agrees that it's patently impossible and then failure is acceptable. Okay? And I think that happens constantly here and to a certain extent it's an artifact of the top-down model.

Now, again, to invoke Kevin Kelly, basically what he argues is that the top-down, analytic, engineering paradigm approach that we tend to use to these sort of designs can only get to a certain level of complexity and then the laws of large numbers kick in and it just doesn't work again. But just as there was a period when we didn't know how to make planes fly faster than sound, but we did know that bullets could do it. So we knew it was possible. We know that it is possible for much more complex systems than we have been able to build to be built, because we eat corn, right? It's completely beyond our capabilities to engineer a stalk of corn. We wouldn't know where to begin, and yet it happens. So it's possible. We just haven't figured it out.

Now, what he suggests and what I believe is that if you take this sort of bottom-up organic metaphor and juxtapose it with the top-down engineering metaphor – again, it's not an either/or, it's a matter of finding the right mix – that you can allow systems to emerge that are much more sophisticated.

Now, I think that the FBI thing, the Social Security thing, we've had some things in California, it's – they're all to my mind examples of the standing high jump, and they are exacerbated by the impulse which says we've got a bunch of money right now and if we don't spend it right now on whatever is deliverable right now – the vendors of course love this, because it's a chance to clear their current inventory, so it's a big win for them, but it serves the public interests terribly poorly. And so again, I think that a lot of the answer is to allow solutions to problems to percolate up, rather than insisting that they're going to be engineered from the top down.

MR. ROEMER: Why don't – and in order to serve the public interest, which we're trying to do here, why don't I get a short answer, Dave and Mike, and then let's open it up for questions.

MR. FARBER: Just a fast comment. If the internet had been designed in a way where I had to build requirements documents, specification documents before I started doing anything, it wouldn't have happened. Part of it is just the way we go about building large systems. We manage to grow a baby in nine months. We can't even grow a set of requirements in five years. (Laughter.)

MR. O'DELL: That was exactly the kind of thing I was touching on, because I – I've – again, I've been – I did my stint in beltway banditry here. I put the first Sun work stations into a certain nameless agency's headquarters, and that was an interesting exercise in anaphylactic shock. But the thing that – but the programs suffer from this interesting case of architectural cynicism because when you start putting together requirements documents for systems, basically you go and you talk to all the users, and you get all the requirements, you collect all this and boil it down, and what you discover is that basically the people you talk to, right, first of all, they know that whatever they tell you they're not going to get it, so what they give you is the Sears Christmas catalog of requirements, and they hope that whatever gets done turns out to be useful, but they in fact have zero confidence that this is going to be yet another one of these exercises, so they just give you this incredible laundry list and maybe if whatever gets delivered turns out to be useful, well, then it's a blessing and we'll use it.

But the entire architectural process, coupled with the fact that these symptoms – that the environment – the half-life of these systems is a fraction of how long it takes to build them, so even if you had a completely accurate set of requirements, it takes five times longer to build it than it does for the requirements to change. Okay? So this notion that you can build these things in a vacuum – that there's this notion of a stable definition of success, that's the failure. It's the fact that you have defined it in such a way that it is impossible for it to succeed. Right?

MR. BOTTERELL: And just so I'm not misconstrued in any way, the private sector has exactly the same problem. They describe it as having a "business model." The common alerting protocol project where we got all these disparate warning systems, how do we make them work together? The social science says we've got to make them work together; how do we do it? Several of us had to actually leave not only government employment, but basically employment entirely and go out into the open source space in order to do it because both the private sector and the government sector had this notion of control and this was profoundly subversive to that.

So I think what we're talking about is not merely changing a procurement process, although that has to happen, but not merely embracing iterative developments, although that has to happen, but actually changing this consciousness and realizing that in the early days of the web there was this wonderful term – what was the verb? – one surfed the web. Now, I always thought that was a really good image because no surfer imagines that he or she manages the ocean. You don't manage the ocean. The ocean is bigger than all of us.

This is not information management. This is information surfing. You observe, you interact, you coexist with the environment. I think that's the attitude that we need to begin to foster. And unfortunately, a lot of the frankly fear-based politics of the last five years have, I'm afraid, taken us a long way back from that precisely because they have put a premium on the establishment of control. And I think if we look at some of the problems that DHS and FEMA has had, they really stem pretty directly from the fact that they were told to go control a situation that is ultimately uncontrollable.

MR. ROEMER: Well, talking about surfing, let's surf out toward the crowd and try to get some participation and feedback from all of you. I think the panelists have now gotten into some areas that if you were sleeping before may have woken you up with the surfing analogy. So please identify yourself and please try to ask the question rather than to make a statement.

Yes, sir?

Q: I think that – my name is Art Brodsky (sp). I think there's a difference between what – I'll make one quick observation, then a quick question, if you don't mind. The difference is White House inspiration from White House leadership. It's one thing for Al Gore to be a techie and say, "I like all this stuff," and then what happens is that people feed off of that. They don't – he doesn't plan, say, do A, B, and C, but I know I'm interested in that. They attract people interested in that, and that's how it comes. I think that's what Professor Farber is trying to get to, not a central planning model.

MR. ROEMER: Right.

Q: The question is, whenever you see – and to get back to a Washington question – legislation on warnings, on alerts, on everything else, it all seems to be radio based, which is nothing wrong with radios, but what happens to a lot of the work, what happens to the internet, what happens to data networks, what happens to all the other ways that people can communicate? Why are the things we take for granted sort of totally left out of the equation?

MR. FARBER: Maybe we're lucky. (Laughter.) No, the thought of the Congress trying to plan the reaction of the internet to a disaster sort of makes me shiver.

MR. O'DELL: Will Rogers – I'm from Oklahoma, so (I'm a friend ?) of Will Rogers. And he once observed that maybe it's actually a good idea that we don't get all the government we pay for. (Laughter.)

MR. ROEMER: Is that the answer you wanted out there? (Laughter.)

Q: (Off mike.)

MR. O'DELL: But water doesn't care whether you want it to run uphill, right?

Q: No, but money cares where it goes and (off mike).

MR. FARBER: I think the model is – and it's nice to have money. On the other hand, the net doesn't seem to be that responsive to money in the terms we're talking about. The fact that Congress authorizes \$100 million to bulletproof something or other if they could only figure out what it is, and then that isn't going to change my ability to actually communicate with your node and you to communicate with her node. And I – what worries me is that – and they may do it. The FCC periodically discovers the net exists and then I sort of sit back and quake for awhile at the thought of what they could do to it.

I agree with Will Rogers. We –

MR. BOTTERELL: Also, I think –

MR. ROEMER: Art, all right.

MR. BOTTERELL: I think that to a large extent those issues are being addressed. They're just not being talked about as loudly because – well, for several reasons. First off, the largest lobbying interests are people like the broadcasters. Most of the people involved in legislation grew up on analog broadcasts and digital systems are relatively new in their life experience, so it tends not to be their frame of reference. But I think there's a difference between saying that they are not talking about the internet and digital technologies and so forth, and something that I would be much more concerned about, which would be if they were doing things that actively obstructed progress into the digital age.

And the work that's been done around common alerting protocol and the current (Warren?) legislation, all of these things actually do appear to be building a bridge into a digital future, but you're right: a lot of the frankly rhetoric about it is sort of analog based. I think that's more a rhetorical artifact than actually a problem. My sense is that we're actually going in some pretty good directions. But if we had a group of dot-com producers sitting in the legislature, the language might be different.

MR. ROEMER: Your question's a very good Washington question. And for somebody who's spent a lot of time on Capitol Hill it goes to, I think, the heart of the problem and something the commission – the 9/11 Commission found as a fundamental problem with Congress was that they continued to look at the last attack and procure and spend money on what happened on 9/11, rather than anticipate the next – with imagination the next type of attacks that jihadists or al Qaeda might engage in.

For instance, we looked at the expenditures coming out of the Transportation Security Administration and found about 90 percent of the money going toward preventing the attack that occurred on 9/11. And so your question, I think, is a very fair one and appropriate one in terms of leadership out of Congress and strategic plans that

they're supposed to develop with Homeland Security, risk-based assessment, intelligence coming in. How do we try to give a certain amount of discretion from the intelligence agencies to think outside the box and use imagination?

To the same extent, when they're making a mistake and looking backwards rather than forwards, how do you change that impulsive procurement or the political impulsive procurement going backwards?

Yes? Yes, right there with your hand up.

Q: I was looking for the mike.

MR. ROEMER: Oh.

Q: Hi. I'm Edith Holleman from the Energy and Commerce Committee, and I have been in New Orleans and talked to people about communications issues, particularly in hospitals, which, as you know, were without communication for four or five days. So what worked and what didn't? And you can all talk about digital and internet, but you know it's analog that works. The pay phones work sometimes. Ham radios worked. Satellite phones worked if you ran around with an antenna sort of moving this way, because it got – the signal got blocked by buildings. And doctors would say, we could make a call, but we couldn't receive them, because we weren't spending all day running around with our antenna going like this.

So when you talk about a real disaster when you don't have power, I'm not sure that anyone thinks about that. Cell towers went down and they went down fast. And you sort of have to combine the old response – the old reliable response with some of the newer responses. Occasionally in the hospitals the internet would sputter up and work, but it wasn't reliable. And digital, as we all know – you all got digital phones in your house? When the electricity goes out, they don't work.

MR. ROEMER: Art, you want to tackle that?

MR. BOTTERELL: Yeah, let me – I think the first thing we have to do is we have to understand that it is not realistic to talk about any of these things in absolute terms. It is simply not true that any mode did work or didn't work. All modes worked and were impacted different ways. There's a tendency to want to reduce these things in ways that I think ignore the complexities. For example, we heard that the public safety radio system for New Orleans was down – absolute zero.

It turns out later that they had several repeater sites. What they didn't have was a procedure for reorganizing their communication to use them effectively. I spent a number of years running around California to disaster sites. I can't actually think of any disaster I ever saw where there was not significant communication available, but it usually was not mapped to the current needs because it was bound up in procedural expectations.

Now, I do want to say a word about satellite or not about satellite per se, but about hero modes. One of the things that happens in my experience after every disaster is that some new technology comes out of the disaster as the hero mode. In Loma Prieta earthquake it was cellular. Well, what happens is when you have a new telecommunication system, it's lightly loaded. Right. And you deploy it. It can work wonderfully well, but the economics begin to kick in after a few years. And by the time of the Northridge earthquake five years later in LA, the cellular system was already loaded to within 10 to 15 percent of its capacity because the economics required it. And son of a gun, cellular was no longer the hero mode. So I think we have to be kind of careful about how we treat these anecdotes about what happened because we're not talking about a static environment. I don't –

MR. ROEMER: Dave? Okay.

MR. BOTTERELL: Just one last thing. I don't think that anybody – and this comes up a lot, so I think that – I don't think anybody is talking about dispensing with analog radio, ham radio, any of the traditional modes of communication. And I think the – one of the forms that anxiety takes is that people begin to think that any talk about something new means a discounting of something old. I think that's not actually what's intended. I think that everybody in – certainly in emergency management recognizes that we're going to have analog communication systems for quite a long time. And in fact, the most interesting work that's being done right now is in the fusion of analog and digital technologies to get the best of both. So I think we have to be careful about sort of false dilemmas like that.

MR. ROEMER: Let me just piggyback on your question a little bit to New Orleans and to Katrina. And as we had focused a lot on the internet and cellular and satellite communications, we found in Katrina that a host of the people that could not leave the city, even with notice, were people in poor areas, and maybe with, as you noted, at hospitals their dilemma might be a little bit more difficult in terms of communicating with public officials and learning what to do after the levees broke.

And so for those people in St. Bernard's Parish and other places without internet hookups, there were ham radio examples of communication. How does – how do leaders in government communicate with citizens in these kinds of situations, and especially people with limited ability to buy these things and might not be on the internet and have access to the internet – might not be able to afford the internet?

MR. FARBER: There's always the high-powered, helicopter-mounted speakers. I'm serious.

MR. ROEMER: What are other options?

MR. BOTTERELL: There are some pretty good radio stations and –

MR. FARBER: Yeah, radio stations.

MR. BOTTERELL: In the area.

MR. ROEMER: And how were the radio stations and –

MR. FARBER: Well, I was – well –

MR. BOTTERELL: Several of them stayed up. Now, I know one friend of mine at FEMA who made one of those – the junior staffer making a potentially career-limiting decision by expediting getting some diesel back to support the generators at one of the stations.

Again, the problem I think is not so much this technology versus that technology. It's how do we integrate them all so that the same information that's available, or at least as much as the most salient bit that can get through the available pipeline, gets to all the media, because you're right. No one technology is going to reach everybody for technological reasons, for sociological reasons, all sorts of reasons.

Plus, what we know about the psychology of people in crisis is that they don't act on a single piece of information because I think we all – we've all experienced false alarms. We all know about rumors. People require corroboration. So even for that reason, you need to have a multi-modal approach to emergency information. So I think that the debate about whether this technology or that technology is going to be sovereign is, I think, maybe a little off point.

MR. ROEMER: Dave, why don't you try to wrap up in 30 seconds?

MR. FARBER: Okay.

MR. ROEMER: Because we're running out of time and I've been informed that we don't have time for more questions from the floor, but 30 seconds, Mike (inaudible) and we'll wrap it up.

MR. FARBER: I'll give just an anecdote. I was married the night of the '65 blackout and I was in the middle of Manhattan, so I'm acquainted with – this was the result of us getting married, I think. (Laughter.) And what was interesting in this context is there was nothing except radio stations. I remember the careful information. The mayor said, "Don't worry. It will be on in an hour." The governor said, "It will be on in an hour." The president said, "It will be back on in an hour," and Con Edison said, "We have no idea in the world what the hell is going on." (Laughter.)

MR. ROEMER: Mike?

MR. O'DELL: I think that last line is hard to top, so –

MR. ROEMER: I want to thank all three of you for profound insights and your expertise and your work on this trying to challenge our audience a little bit to think outside the box, and inform all of us that there is no single silver bullet to solve this. There are many, many ways to try to get at this. As the good question indicated from the member of the staff of the Energy Committee in the Senate who's been down to New Orleans indicated, we need to talk to people that actually go through this and train with them, and change things such as the impulsive procurement policies that exist in Washington today.

I want to thank the Center for American Progress as well, too, for their excellent work on this issue and other issues, and continue to urge those leaders, whether they be in the White House or the United States Congress on one part of this, the public radio spectrum, that that is one very significant part of this answer, and to encourage them to have the political will and the courage to move up the date and take on these broadcasters who want to delay this and try to get this done in 2006 or 2007, not eight years after 9/11.

So thank you very much. P. J. Over to you and I hope we cleared up all the answers for you.

(Applause.)

MR. CROWLEY: And as an English major, I look forward to rereading and rereading this transcript to figure out how to pass this test. Coming up, we have our next panelists on energy infrastructure. Obviously, every one of us after – in and around Labor Day understood the impact of Katrina at the pumps and in our wallets, so please stick around for that. If you don't know what the LOOP is, the Louisiana offshore oil port, it's arguably the most significant piece of energy infrastructure in the United States and we'll find out how it fared during Katrina.

But we'll take about a ten-minute break and then we'll reconvene at 11:30.

Second Panel: Energy Infrastructure Security

P. J. CROWLEY: Okay, if we could take our seats, we'll talk about our next panel. It involves energy infrastructure and energy security. As I mentioned before the break, we were doing a pre-call with our panelists and one of them said, "Well, if we lose the LOOP, we're sunk." And a few of us looked at each other and go, "LOOP?" You know, go to Google and you figure out it's arguably the most important piece of energy infrastructure in the United States.

Obviously our society literally run on fossil fuels; primarily oil, and the vast majority of our energy infrastructure is concentrated in the Gulf of Mexico, including our distribution points that link us to the global energy economy. And anyone who bought

gasoline around Labor Day understands what Katrina has meant to us in terms of our macroeconomy and our personal economy.

So at this point, it's not obvious that when you think about national security and then drill down to energy security/homeland security, how much you realize how energy and oil, it both affects our way of life and also presents vulnerabilities that can be – can occur both from natural and terrorism causes. I think what is sobering and a great challenge for our distinguished panel is that whatever solutions may come up that make our energy security more resilient and redundant will take 20 years from where we're sitting right now.

But to introduce the panel is our moderator, Ana Unruh Cohen, who is the associate director of environmental policy here at the Center for American Progress. Ana, take it away.

ANA UNRUH COHEN: Thanks, P. J. Thank you all for joining us. For you – for those of you who've been here this morning, I hope we're going to – this panel is going to endeavor to add to the discussion by examining the lessons learned from Hurricane Katrina for critical energy infrastructure security in America. As P. J. said, I'm Ana Unruh Cohen. I'm the associate director for environmental policy here at the Center, and it's my pleasure to moderate such a distinguished panel.

Before I introduce our panelists, I'd like to just briefly remind you of the some of the impacts of Hurricane Katrina and also Hurricane Rita because as you can see by this first slide up here, the two of them were kind of a one-two punch on our energy infrastructure, especially off the coast of Louisiana. And I'd just like to thank my colleagues at (Sky Truth?) for making up this map for me for this presentation.

As you can see, the two hurricanes passed – ran right through one of the major fields for oil and gas production and pipelines off of – in the Gulf of Mexico. On September 26th, two days after Rita made landfall, the Minerals Management Service was reporting that 758 platforms and 101 rigs were still evacuated, just to give you a sense of scale for the impact on our offshore resources. Today – well, yesterday's report from MMS tells us that 149 platforms and five rigs are still evacuated out there. We have a big shutdown in production. The Gulf is now producing about 1.5 million barrels of oil per day. But there's still another 700,000 that are shut in, so that's about 50 percent of what we're producing right now is still shut in. And the same is almost true in natural gas production. There's about 40 percent that's still shut in from the impacts to the infrastructure out there.

And if I can make the next slide go forward, we'll see – maybe not, maybe it's this way? Oh. The technical difficulty – all right. Ron, could you just hit me forward there? The – oh, no, that's –

(Cross talk.)

MR. : No. That was it.

MS. COHEN: That was – huh.

(Cross talk.)

MS. COHEN: All right. Okay. Well, that’s – we’ll just leave that one up there. My next slide would have (laughter) – what?

MR. : (Off mike.)

MS. COHEN: No, well, we went forward, and we went right to Ron’s presentation here, so –

MR. : We do have the hand puppets if you want them.

MS. COHEN: Yeah. Well, the next slide would have shown Hurricane Katrina coming on shore and knocking out a bunch of refinery capacity, which we all know happened and we still – there’s still about a million barrels per day of refining capacity off-line in Louisiana, and the Energy Information Administration is predicting that this – we won’t be back to all this capacity back online until February. So we’re facing still in the months to come some challenges in the energy infrastructure.

And as we all know, that had economic consequences. Probably some of our other panelists will show what I would have shown here, which is the increase in the gasoline prices. And within a week, basically, gas prices had shot up about 45 cents on average across the U.S., which I’m sure you all remember. And we’re also facing as we go forward and winter seems to have finally arrived, natural gas and home heating issues as we go forward this winter. And I’m sure you’ve all read some of the pretty dire predictions on prices that are out there.

What I wish I could show you is another – is a final slide still related to energy infrastructure that got little – relatively little coverage in the press, and that was oil slicks in the Gulf. Now, fortunately there were no catastrophic spills, but there was pretty widespread leakage, suggesting that as we rebuild we reconsider some of our engineering criteria, especially faced with rising global temperatures and the potential for increased intensity in hurricanes, especially in this area of the world.

And I’ve spent most of my time talking about oil and natural gas, but we certainly at a panel about critical energy infrastructure can’t forget electricity. As all of you know, millions of people lost their power in areas still not completely restored. And electricity is obviously a critical component of both communications and public health infrastructure which our panel has been discussed – was discussed earlier and will be later in the day. So obviously maintaining electricity service during natural or manmade catastrophes has to be a high priority in any energy infrastructure security plans.

But it's now time for our panel to give you their perspectives on the lessons learned from Katrina for energy infrastructure. The panelists' full biographies are in your packets, and so I'll just briefly introduce them here.

Ron Minsk at the far end of the table will be speaking first. He is an associate in the energy practice group at Alston & Bird. He's also a senior fellow in the Energy and Environment Project at the Progressive Policy Institute and is a member of the advisory board of Securing America's Future Energy. From 1998 to 2001, Ron served with the Clinton White House as a director to the National Economic Council and special assistant to the president for economic policy, where he was responsible for coordinating Clinton administration policies on environmental energy and agricultural issues.

Michael Klare, who's in the middle here, will be speaking second, and he is the Five College Professor of Peace and World Security Studies. That's a joint appointment at Amherst College, Hampshire College, Mount Holyoke College, Smith College, and the University of Massachusetts at Amherst, and director of the Five College Program in Peace and World Security Studies, a position he's held since 1994. Prior to that, he was director at the Program on Militarism and Disarmament at the Institute for Policy Studies in Washington, D.C.

Leon Feurth, who's next to me, will be speaking third. He's a research professor at the Elliot School of International Affairs at the George Washington University. He is the former national security advisor to Vice President Al Gore and served on the Principals Committee of the National Security Council alongside the secretary of state, the secretary of defense, and the president's own national security advisor. Among other important initiatives, he led efforts relevant to today's discussion – that's enough?

LEON FEURTH: That's enough.

MS. COHEN: All right. Okay. Well, he'll tell you his relevant initiatives. And then finally, Melanie Kenderdine is going to wrap up for us. She is currently vice president for Washington Operations for the Gas Technology Institute and Natural Gas Research Laboratory. She was the director of policy at the Department of Energy and senior policy advisor to the secretary on oil, gas, and coal issues during the Clinton administration.

So Ron, take it away.

RONALD E. MINSK: Thank you very much. I think I'm – if the clicker is not working, I'll sit here so I can move, but that also means that I won't be able to point. I'm going to go through a couple of slides quickly, but I also – before doing so, I just want to acknowledge my appreciation for data and some slides from the Department of Energy, the American Petroleum Institute, and the Minerals Management Service.

Here quickly, again, we're – we can take a look at where some of the operations are in the Gulf Coast. This is an MMS diagram. These black dots, which look like

they're just kind of scattered out in the Gulf, represent offshore platforms. The green, little marks that are on land represent crude oil terminals, and then the – they're hard to see, but there are little blue circles that have an R inside in the original map and those in fact are oil refineries along the Gulf. Here again, we can – you can see a little better. You can see some of the R's up near Houston and then again by the Texas-Louisiana border. These are the refineries, and then you can also see where each of the two hurricanes made their landfall. So what you can see here is the extent to which they really drove right through the heart of the oil and gas operations in the Gulf of Mexico. Again here, this just points out where some of the refineries are and where Rita's path was when it made landfall.

This slide here shows some of the damaged infrastructure that Ana just mentioned. Again, we're looking at 66 platforms destroyed by Rita, 46 by Katrina, a smaller number seriously damaged, a couple that are still accounted for that sunk, significant pipeline damage, and you can see that at the peak as many as 700 out of 1,600 platforms were evacuated as a result of Rita and 660 out of 1,300 were evacuated by Katrina. And you can also see how these compare to Hurricane Ivan last year.

Here we can see how the capacity was actually shut in so that the top two lines or the amount of oil and gas capacity that was shut in by Katrina and then by Rita. The two bottom lines show what was shut in by Ivan last year. So what you can see is that at the outset what was shut in by Katrina was larger than what was shut in by Ivan. But with the combination of Katrina and Rita, and Rita really did go right through the heart of the operations in the Gulf, not only did the volumes that were shut in go way up with Rita, but the extent to which they've been prolonged really has gone up. So a lot of stuff that came online much more quickly from Katrina and from Ivan last year is still offline and will not – some of them will not be online until next year and perhaps some of it might not get back online.

Here you can see the bars show the oil production, the volume that is shut in, and then the top line shows the price. So you can see the extent to which the amount of capacity that is shut in affects the price. And you can see on the right hand side, EIA is forecasting the price going, I guess, through the spring as well as the extent to which the shut-in production is going to be brought back online. Here is really just another way of seeing it. You can see as crude production, which are the light green bars on the bottom goes up, the price is going down.

On natural gas, we're pretty much seeing the same thing. So you're seeing that as production fell, as the blue bars fell, the price went up, and in fact, the price – the trading on the Henry Hub price, which is the nation's benchmark for natural gas, was shut down for a period of time due to, I guess, concern as to where it would go in the market. And then we can again see what the government's forecasting is it's going to come back online through March and how the price is being forecast, at least at the moment, to fall. And once again, we can see here, the relationship between the amount of capacity that is shut in and price.

And lastly, here we're looking at refining capacity and the extent to which it has gone offline and the way it affected gasoline and heating oil prices. And in fact, this really was much more of a refinery crisis on the oil side than it really was a production crisis. In fact – and that's why the price of oil stayed relatively stable. I mean, we saw the price of oil probably during the eight weeks after Katrina probably never got more than \$5.00 away from the \$65.00 a barrel, even though the price of gasoline shot up. And that's because it wasn't a real shortage of oil that was driving it; it was a shortage of refining capacity because of the refineries that were shut down on the Gulf Coast.

What you can see on this slide is – on the top, is the amount of oil that was consumed. And you can see that as the price started to rise right around the beginning of September at the top (half?), the nation's consumption of oil dipped. The bottom line – and unfortunately the scale on this chart doesn't really show it – the bottom line is product imports. And what's interesting is you can see how it slowly works its way up from early September to mid-October. In fact, this reached record levels of product imports. But what that showed is that the high prices of products were able to draw in product from abroad and help keep us up supplied and also bring the price back down.

Here we can see what happened to prices, particularly on the East Coast. These are gasoline prices and how they shot up. The red states are states in which – in this instance, in which (laughter) the price shot up by more than 50 cents a gallon. What you can see is that a lot of this problem is related to problems powering the colonial plantation pipeline system, which runs through the East Coast. And then again you can see how prices subsequently have dropped since then up until, I guess, a few days ago. So they've actually dropped back further – they're now below where they were when Katrina started, which is what we would have expected given that gasoline prices generally fall this time of year.

One thing just – I'm going to go on and just take a quick look at what the predictions are for this winter's heating oil – or for heating costs. But if I hadn't had my own technical difficulty, there were – something that I like to show before I ever – if we're ever talking about price forecasts, it's a really dangerous business to get in because the truth is no one has a clue. When I started working at the White House, one of the first things I did is went over to the Department of Energy. And this was in late 1998, and they did a presentation showing how we were suffering from low oil prices, and how the industry needed all this government assistance to be saved. And they gave me a graph, which I wish I had the slide of and I don't, and it shows how their prediction was that the price of oil wasn't going to recover to the 18 to 24 dollar barrel range until 2004. Which, in retrospect, seems, well, not like a great forecast. But just to show that they weren't the only people who were wrong, the *Economist* had a cover story back in 19 – the same month (which?) was drowning in oil, and they had an article that showed how \$10.00 might be too optimistically – may be heading for a \$5.00 price range. So, in fact, predictions are really dangerous, but that hasn't been said.

This is where the government's predicting the average consumer is going to spend to heat their house this winter, the far right-hand column. And you can see where it was

last year, and you can see where it's been for the past couple years. So natural gas, that's \$1,000 up from \$4.71 five years ago. We're up from \$7.42 last year. These are giant price increases, if you look at – you know, it's not just what's happened this past year, but also throughout the – really the term of the current administration, and this is where I think – you know, it really just hits people hard. I mean, to the median household that has an income of somewhere in the mid-\$40,000s, to see price increases like this is just extraordinarily difficult. And this is certainly one of the reasons that we need to be really concerned about this. And just lastly, here you can see again, this is just a graph of the same information, the top being heating oil, the bottom being natural gas. And I'll leave it at that, and we'll talk more afterwards.

MS. COHEN: Thanks, Ron. And now we're going to turn to Professor Klare to give us sort of the bigger – not just the economic concerns that we're faced with, but the bigger global concerns.

MICHAEL KLARE: And I'm grateful to be here. I hope I can fit all this in. I'll do my best, but I'll give you my main point right upfront, and that is that Katrina utterly and totally and completely demolished the energy plan of the Bush-Cheney administration – the energy plan of May 17th, 2001. It was swept away like the dikes in New Orleans. And this collapse of the Bush/Cheney energy plan has very profound consequences for homeland security.

First of all, the collapse of the plan leaves us without a viable energy strategy at a time of tight world energy supplies and makes the American economy at risk because of that. Secondly, it increases America's reliance on imported petroleum and thus makes us at the – beholden to the will of foreign dictators and potentates who may not have our interests at heart. And third, as part of this growing reliance on imported oil, it will mean inevitably more reliance on the Middle East and greater American involvement in the societies of the Middle East, provoking, I think, greater anti-Americanism and risk of terrorism, so all of this has very profound consequences for homeland security.

To appreciate this fully, I have to review briefly the Bush-Cheney Energy Plan and its goals and assumptions and what's been learned since then and why Katrina was significant, but first a quick reminder. The Bush administration came to power in early 2001 in the midst of what was called at that time an energy crisis, and that was the – before 9/11 was the primary policy concern of the administration. The president appointed a National Energy Policy Development Group headed by Dick Cheney to study the nation's energy situation and come up with recommendations. This followed a period, you'll recall, in late 2000 of electrical blackouts in California and high oil prices, as now, and natural gas shortages.

And it was very clear that to address these problems that long-term initiatives were needed in the energy field, and most experts advise that this would have to include some combination of increasing the supply of energy available, but also increasing the conservation of energy so as to better accommodate for future energy crises. I think this was the common wisdom at the time. However, the Bush administration chose to

eliminate as to anything having to do with conservation and put all of its emphasis on increasing supply of energy. This was expressed in two illustrative statements at the time, one by President Bush, “The goals of this strategy are clear: to ensure a steady supply of affordable energy for America’s homes, businesses, and industries,” and then the comment by Vice President Cheney you’re all familiar with, “Conservation may be a sign of personal virtue, but it is not a sufficient basis for a sound comprehensive energy policy.” And that was essentially the philosophy of the national energy policy released on May 17th, 2001.

To satisfy the goal of increasing supply above all else, the NEP, the national energy policy called for increases both in domestic production and in imports. They didn’t advertise this fact, but if you read the NEP closely, you’ll see that the majority of the recommendations, or the largest number of them, have to do with increasing imports of foreign oil. But it did have a subsidiary goal of trying to slow – the plan anticipated that an ever larger share of America’s petroleum would be supplied by imports, but it had this added goal of trying to slow the rate of increase of dependency by increasing domestic oil production; namely in Alaska, but more than anywhere else in the deep waters of the territory of the – off-shore territories of the United States. And almost all of that focused on one place, the deep waters of the Gulf of Mexico; namely, the areas that you saw in that original map.

The assumption of the energy plan – there are two key assumptions in the Bush-Cheney plan: one was that the – throughout the term, the NEP had a 20-year mandate to address U.S. energy over the first 20 years of the 21st century, and these two key assumptions were that the global supply of oil worldwide would continue to increase steadily throughout that entire period; that is, that world oil supplies would still be growing in 2020. And secondly, that it would be possible to substantially increase production in domestic areas; namely, Alaska and the deep waters of the Gulf of Mexico. Both of these assumptions have proved to be highly unrealistic. I can’t go into great detail in all of this, but there’s a growing body of evidence and analysis to suggest that global oil supplies of all sources are – will not be able to continue increasing over the next 20 years, but we’re very likely to reach a point somewhere between now and 2020 where world oil output peaks – reaches its maximum sustainable daily output – and hovers there for a while before going into decline. This is not the place to revisit those arguments. If we have time, I can go into greater detail, but one sign that this is proving to be the case is the oil companies are all reporting a sharp drop in the new discovery. They are spending more money on exploration, but for each dollar they’re spending, they’re finding less and less new oil and now Chevron – the president of Chevron, Dave O’Reilly, has – in ads you probably have seen, has stated that in his view we have come close to the moment of peak oil production and it will become increasingly difficult in the years ahead to increase – I only have one minute left – so let me speak without looking at my notes. (Laughter.)

Katrina showed us two things: that – I also was going to mention that there’s been an increase in demand unanticipated in 2001 from China and India and other suppliers. So you have globally a slow down in the increase of supplies and an increase in the

demand for oil reaching a point before Katrina where supplies were already extremely tight, and then you have an incident like Katrina that pushes us over the edge to these very high prices that we've seen. And I think that we have to anticipate that any future Katrina-like event is going to produce similar effects. And God help us if two occur at once and from a homeland security point of view, we have to anticipate that exactly that might happen. A hurricane and maybe a coup d'etat somewhere else would have a catastrophic impact on our economy in all likelihood. And without an energy plan – because we have none now, it's been shattered – we have no plan to address this kind of equation. And talking about expanding the national petroleum reserve is not an answer when there's no plan for conservation.

Let me just finish by reiterating the point I made in the beginning about the national security implications of this. Because we don't have any plan for conservation and because we continue to need more oil at an ever – at a faster rate and an accelerated rate, we're becoming more dependent on imports and because of the decline in the older fields of Canada, the U.S., the north sea, more of that is going to have to come from the Middle East and Africa, places of instability where the United States has often become allied with governments, dictators and kings and monarchs and feudal – feudal knights and KGB apparatchiks to ensure our supply of oil, and this is the principal source of the anti-Americanism in the Middle East.

It's not our support of Israel or anything else. It's our support of the dictators who rule these countries; support which is premised on their delivery of oil. This is the ultimate goal – the ultimate concern for al Qaeda is to destroy the satanic relationship between the House of Saud and the United States government and that is the root of 9/11. That is the ultimate root of 9/11 is that relationship, and so with the way things are now, we are only increasing our exposure to threats of that sort because of our increasing dependence on oil, and this is a product of the flawed and now destroyed plan of the Bush-Cheney administration.

MS. COHEN: Well, thank you. And on that note, I think it's quite appropriate to move on to Mr. Feurth, who's going to give us some insight and how we can think strategically about this issue.

MR. FEURTH: Geez, I don't know. (Laughter.) In general, we're all aware that one of the things that Katrina exposed was that the possibility of serious disruption to the national energy supply is a strategic threat. And it's strategic not only because we need a lot of energy, but because the systems that bring us that energy are getting thinner and more overtaxed with time. There's less room for maneuver in the event of a significant failure of any one of those systems, whether it's the result of natural cause or a concerted act of terrorism or a political event in some other part of the world.

So when you have a strategic threat, you would logically expect there to be a strategic response, which is where the problem comes in because there isn't one. And though we spent some time discussing what it is that we don't have, I've been thinking

about what I can tell you that might help. So I'll start from my own conclusions about governance in general and then draw them down to this particular issue.

Our system of governance on the national security side is basically a derivative of World War II experience as modified by the Cold War: that's the National Security Council. On the economic side, we have no real system. I know we have the various councils and government, but they have never reached the state of development that the National Security Council did and essentially those components of governance that deal with energy and its immediate – in the immediate sense of the word are grand duchies and not part of an orchestrated system. The Congress is derivative of an 18th-century model and is hopelessly behind at the moment in its ability to conceptualize what the United States needs in order to deal with the 21st century.

What we are going to confront in this century or what we are already confronting are increasingly complex – in the technical sense of the word, complex threats, which do not fit the existing structures of government. They don't respond well to complexity and do not even fit existing fields of technical expertise whether in the government, in the executive branch, or in the academic world. Complexity means the interaction of multiple strains of events, any one of which could produce consequences, maybe serious opportunities, too, at high speed; at a speed faster perhaps than our system is capable of dealing with. We have a little problem in a democracy in that it takes us time to agree even on what is happening, and then it takes us more time to possibly agree on what ought to be done about it and even more time to come up with the resources to deal with it. And then we relitigate (ph) the results anyway.

There is a real danger that some of the things that are developing we think 10 years out will spring on us faster and spring on us so fast that we lack the societal capacity to understand what is occurring and to prepare for it with foresight and with discipline. And I think Katrina sort of shed a bright light on one particular domain where we lack this institutional capacity to adjust for a complex reality in the future.

Not only do we lack the capacity to conceptualize on the scale needed to deal with the implications of Katrina but we also lack the ability to apply foresight. I haven't heard anyone mention the question of whether any of the responses now being talked about for Katrina is adjusted for the possibility that in the next 10 to 15 years not only do we peak energy production, but global warming turns out to be correct and accurate and the frequencies and severity of storms continues to increase and sea levels begin to rise and the complications come upon us faster than we had wished to believe.

I believe that one of the urgent tasks ahead of us as a system of governance is to create the structures that are capable of thinking in this scope. And bear in mind also that it is not enough to be able to think strategically; it is necessary to be able to execute strategic plans. The conceptualization of a strategic plan might take six months, the execution might take 15 years – different requirements, different personalities, different political requirements.

Now, we can continue to muddle through it, but I think all of us here have the very uneasy feeling that the days of being able to successfully muddle through have already passed, and that we are going to be facing some tests which we have better get right because they will be no second opportunity for America to deal with them.

Now, applied to this specific instance what would strategic thinking look like? This is just off the top of my head. Who is making the decision about the defense of the city of New Orleans in the future? And are we going to look, let's say, to the examples that the Dutch set or maybe the – we see gradually taking place around Venice when we think about what it takes to really defend the city of New Orleans? Or is our decision mainly going to be to patch up the existing system and maybe hope that the contractors do it right this time and turn it over to the Corps of Engineers once again? Big decision.

And, again, the question is whether the engineering will be predicated against a view that says it won't get much worse than it's already been, in which case in 10 years we complete a project which is already inadequate before the ribbons are cut because of climatic change. What's the framework within which this planning takes place? To what extent are the wetlands around New Orleans part of this – part of the problem? And to what extent are they part of the solution? We've heard that a shortage of refinery capacity was the real driver in the price spike, but that shortage is not merely the consequence of damage to the existing refineries, it is the consequence of inadequate construction of refinery capability. And part of that is a consequence of the other great feud in our society, one feud is over abortion and the other one is over refinery capacity for environmental reasons. We had better find a way to get some more refinery capacity because it is definitely the chokepoint in the system.

California – the state of California is critically dependent upon access to energy that enters the United States through the region affected by these storms. If we were thinking strategically, should we allow that vulnerability to continue? If this was a Cold War, we'll rip off a check for \$50, \$60, \$70 billion and go spend it on redundancy. Those of us who were around know that will be a relatively minor expenditure. A weapon system typically cost \$50 billion. The Hummer costs \$50 billion. All right? Well, we're poorer now, but the point is that if we really want to address this problem, we're going to have to spend big over a long period of time against very large and well-conceived strategic objectives. I see no indication that we are thinking in those terms, and as I said at the beginning, we don't have the machinery, the capacity, or the human capital at the present time accustomed to dealing with issues at this level of complexity or to execute them at this level of complexity.

MS. COHEN: All right. Well, thank you. It's been a challenge for our three – our first three panelists probably to condense their perspectives on the problems we're facing but our final panelist, Melanie Kenderdine has probably has the more challenging to try and provide us with some solutions, and so, Melanie, if you're ready.

MELANIE KENDERDINE: Thank you, Ana, and thanks to P. J. and Ana and the Center for inviting us to speak to you all today, and thank you all for coming. My task as

Ana said is to come up with some solutions to the world's energy problems and to do it in seven minutes. (Laughter.) And hopefully I won't fail on both fronts. I think I will fail on the seven minutes, however.

I'd like to make three points to start: one is – and I'm going to be talking about technology solutions. There really are technology solutions that exist today that can really solve all the problems, basically, all of the problems that we've described. We can dramatically reduce our oil dependence, we can capture and sequester carbon and we can run cars on biofuels or hydrogen and generate electricity and heat our homes with renewable fuels. It's all a question of price. And we can buy a car that runs on hydrogen today, it will cost you about \$800,000 and we can see when gasoline hits \$3 a gallon what – how we respond – how the public and the politicians respond to prices. So again the challenge is to reduce the price of those alternatives and I would also say create the infrastructure to deliver energy to consumers.

And the second, when I started with the Clinton administration from 1993 to today, the Department of Energy has spent roughly \$17 billion on applied energy R&D, and that's a lot of money. And I would say that by any measure that has not been well spent but actually by some very high level measures. Imports are hitting 65 percent, national gas prices have doubled, tripled. Coal prices have tripled. We're not capturing and sequestering carbon. I was speaking at an event last night, we've had an enormous increase in greenhouse gas emissions in the last couple of years, and for the first time in about two decades, energy cost as a percent of GDP is actually rising; it rose pretty precipitously. Look at the short term energy outlook last month, that says – that's scary from a lot of perspectives, but from an energy efficiency perspective, it's – an energy-intensity perspective, it's not the direction we want to be going. So we have spent \$17 billion over 12 years and those are kind of your high level measures of effectiveness. And so I think that we need to step back and take a really hard look at how we are investing our research dollars and applied energy R&D. It's not a very sexy topic. I recommended that we speak about – we address that at the Aspen Energy Institute that Ron and I go to every summer and it was roundly rejected as being a boring topic, but I think it's really important.

I won't belabor it here anymore because it is a little boring, but – and finally our definition of energy security over the last two or three decades has really meant oil security and by our uninformed measure of what constitutes successful oil policy or energy security policy – and we always use percentage of oil imports – we have failed miserably. I would argue that that's uninformed measure as well; that we are never going to reduce our reliance on imports. We need to reduce our reliance on oil and because it's a global market and we can't sequester what is imported oil versus what is domestic oil. It's meaningless in global markets. So I think we failed miserably in that regard and if we want to align successful policies against meaningful goals, we need to expand our definition of what constitutes energy security, and actually become more expert and realistic about what that means.

And Leon said that people weren't thinking in high level goals, actually these energy security challenges I'm going to put forward up here kind of, you know, preeminent challenges are from a book chapter that my colleague, Dr. Moniz and I wrote for a book called the *Energy and Security*. I'm just going to talk about basically challenge number one, which is the uneven distribution of oil and gas supply in the world versus oil and gas consumption. And number two, which is environmental stress that increases potential for regional instability and tensions. Challenge number three – Dr. Moniz is a physicist – and that's fissionable material and the specter of nuclear weapons, I couldn't talk about that if I tried. Number four is somewhat related to number one, which is the expanding infrastructures – the distribution systems globally and how those are vulnerable to malevolent threats.

Very, very quickly, I'm going to – this was done for a natural gas presentation, so the percentages that you see here are for natural – increases in natural gas demand. This is fossil fuel consumption 2002/2025: and oil, purple; gas, yellow; coal, pink. And as you can see, world energy demand is growing very dramatically in spite of Ron pooh-poohing all the forecast. We know directionally this is correct. Total world energy consumption will rise 57 percent. Oil demand will increase 56 percent, natural gas 70 percent and coal by 46 percent.

The most notable increase here is in developing Asia: enormous increases and demand for all of the fuels. A couple of interesting points – Western Europe, you see over the pink bar is coal; they are actually decreasing their coal consumption by 20, 30 – direct impact of their adherence to the Kyoto Protocol. Also to join the EU, they are putting very strict environmental requirements on that the countries coming in, and you actually see a decline in coal consumption in Eastern Europe where there is a lot of coal resource base. And the same is occurring in the FSU, Eastern Europe, and Russia in particular. It's not an absolute decline in coal consumption, but as a percentage of total energy consumption it's going down quite a bit.

These are oil and gas and coal reserves by region. Again, this was a natural gas focus, and so you're going to see a couple of big national gas bars pop up here in a second – there we go. Middle East has 36 percent of the world's natural gas reserves and Russia has the other 36 percent, so 72 percent of the world's natural gas reserves are – these are proved reserves – are in two regions. Two countries, Russia and Iran, hold 45 percent of the gas reserves. You saw the previous slides: 70 percent increase in gas demand when two countries hold 45 percent of the proved reserves and they're Russia and Iran, the geopolitical implications are pretty stark. One other thing, this slide, the oil numbers are skewed because the inventory that is reflected here includes Canadian tar sands, so you see a much larger oil reserve base in North America than you do in other inventories.

This is a very busy slide and it's busy because the world is very busily developing a global LNG market, and I'm just going to say a few things as the market arrows are popping up here. The U.S. is – and the energy bill favors this – dramatically increasing its imports of LNG. The five terminals that have been licensed in the U.S. are all in the

Gulf of Mexico, so that's where the supplies going to be going in creating another set of problems. But the U.S. number one supplier is Trinidad, after that in this order is Algeria, Qatar, Nigeria, Oman, and Malaysia. Algeria, Qatar, and Nigeria are OPEC members, Oman is in the Middle East, and Trinidad only has 23 Tcf of gas reserves. Their supply will be gone in probably 10 years. They will then be getting their gas from Venezuela, another OPEC member, so our supplies are coming from now and will be coming from OPEC countries.

This slide also shows significant competition between the U.S. and Asia and Western Europe for LNG supplies, and again the Middle East and North Africa are (swing?) suppliers of LNG. These are global oil and soon to be LNG chokepoints and in the world very significant amounts of oil and will be LNG moving through those different chokepoints. Three of these chokepoints, the Straits of Hormuz, Malacca and one that I can't pronounce, Albacaba (ph), I guess – 36 percent of the world's daily oil supply moves through those three very strategic locations. That is currently – so if those – if there were attacks on these three locations, the world would lose 36 percent of the oil supply. And by 2030, I just – it just came out yesterday IEA says by 2030, 52 percent will be moving through Malacca and Hormuz, so, one, that shows concentration of oil production from the Middle East and demand in Asia, but it also shows its vulnerability of those locations.

I'm going to go now to challenge number one: the uneven distribution of supplies. And I'm only going to talk about two things here: diversifying our oil resource base and increasing and enhancing domestic natural gas supply. I am not advocating. I would certainly advocate increasing domestic gas pipes. I work for the Gas Technology Institute. But what this does is give you a picture of how-to technology. You could not reduce your reliance on oil or natural gas but you could change the geopolitics of oil and natural gas by investing in Canadian and Venezuelan heavy oil and tar sands and increasing our domestic gas supply. Canada has 187 billion barrels equivalent – oil equivalent in tar sands. Venezuela has 272 billion barrels of heavy oil. To give you a perspective, Saudi Arabia has about 250 billion barrels of oil reserves. These are – these resources are certainly not without their environmental and technical challenges, but if we wanted to continue to use oil, that's an option. We can't refine this oil and we ought to mention refinery capacity. Our refinery capacity – we have the wrong kind of refinery capacity do this, and quite frankly to do a lot of the marginal oil in the world.

One other thing on natural gas – increasing gas supply. I said before proved reserves. North America only has 5 percent of the proved reserves in the world. It has 1,969 trillion cubic feet of technically recoverable reserves. That means that you need technologies to produce these reserves. And to give you a point of reference, for those of you who don't dwell in this world like I do, the U.S. consumes about 22 Tcf of gas a year, so when you have 1,969 Tcf of technically-recoverable reserves, you've got close to 100 years of supply at current rates of consumption, so we could invest here. We could invest in tar sands and heavy oil, not change our infrastructure for the next 20 years, and change the geopolitics, become less dependent on Middle East.

This is challenge number two. I'm going to talk very fast. I'm going to get like Amory Levins, for those of you who've heard him before. This is on environmental stresses and we ought to mention the climate change as well. I'm just going to show you a couple of slides.

This is a greenhouse gas stabilization triangle, and you're going to see the bottom bar, across the bottom is a turquoise bar. That is level emissions at seven gigatons of carbon per year for the next 50 years, which is something that we want to achieve, but we are a straight-line increase for doubling emissions of carbon into the atmosphere over the next 50 years. And we can achieve seven gigatons of carbon avoidance with current technologies if they are appropriately deployed. And we can do them – and I've just listed illustrative areas where that could be achieved.

I would point out a couple of things. Building efficiency is very important. Coal – switching from coal-fire power plants to gas-fired power plants achieves a wedge of carbon avoidance – these are equal wedges – and the U.S. is going in the opposite direction. The Europeans are moving heavily to switch out their old gas/coal plants. I'm going to skip over this slide. This is efficiency investments, which we need to be doing a lot of, and ACEEE, which I find their modeling to be very good, I showed this slide, which is a depiction of their modeling and found out the modeler was in the audience. That's always a horrifying experience when you're speaking. Bottom line is – and this is for gas only, okay – that an investment of \$11 billion gets consumer savings of \$32 billion, not to mention other ancillary and shared benefits for the environment, et cetera, et cetera.

And finally, this is alternative fuels. Okay, this is a complicated slide, but what it assumes is over the next 50 years holding fossil fuels constant at – it's about 322 – this is 2000 numbers – 322 quads a year of fossil fuel consumption, hold it constant, assume various rates of economic growth. How many – at what – how would you have to make up the difference in energy demand? What would be required in terms of alternative fuels? And I will say this includes hydro and nuclear. And what you see is that at a – the turquoise bar is holding fossil fuels constant. Nonfossil fuel energy use is the purple bar. And at 2 percent growth, you would need 727 quads of nonfossil energy at 2.5 percent over 1,000 quads, and at 1.5 percent almost 500 quads. These are orders of magnitude, differences that would be required in alternative fuels to make up the difference. If – and that's just holding fossil fuels constant.

And then finally in closing, I'd like to point out a few technology policy red flags that jump out at me looking at the energy bill and the energy law. The energy bill, contrary to what most people think, is not heavy into oil and gas, but it is very heavily into subsidizing hydrogen and coal and nuclear solutions. By far and away the largest incentives are for coal and nuclear. There are IGCC incentives in the energy bill, and this is being touted as a way to capture carbon using IGCC coal-fire power generation. You can capture carbon, but the law and the incentives and the technology programs do not require that these coal plants be capture-ready, only that they be capture-capable, and it is

very, very difficult to retrofit those facilities. So what we are doing – actually, it's almost impossible.

And so what we are doing is incentivizing probably another fleet of power plants that we will have to grandfather in at some point when we actually do require that carbons be sequestered. On hydrogen – incentivizing hydrogen, hydrogen is like electricity. It is a process that requires an underlying source of fuel to generate. It is not a fuel in and of itself, and so you're either going to have to generate it with coal. Natural gas is the least expensive. It would require using all of the natural gas that we currently consume in the world on an annual basis in order to displace oil with hydrogen to fuel our automobile fleet. And the bill has a whole lot of technology carrots and no regulatory sticks. And again, there's no new research model in this bill, and I think we desperately needed that.

Thank you.

MS. COHEN: Thank you. Before we get to your questions, I want to give the panel a chance, especially the three panelists – the panelists who went first – to weigh in on the solution side as well, but to me it sounds like the message coming from all the panelists to really – to help secure our critical energy infrastructure, the main goal is to make it less critical really, to expand those types of energy, sources of energy, and how we provide that to consumers of that energy. But I open it up to any of the first panelists, if you want to respond to Melanie or add additional solutions.

MR. FEURTH: As you can tell from my comments, I'm preoccupied with the question of governance and its capacity to deal with the kinds of problems that I expect we will have to live through. One of the meta-questions here, perhaps one of the things that perhaps Katrina exposed again, is that the market is not going to take care of these strategic issues. Now, under the present administration's philosophy is that it will. Manifestly it won't. If we want strategic solutions to the nation's problems, you will have to design a new role for government in the process, and that role will have to be not just regulatory, but actively engaged in the process of conceptualizing, designing, and helping to bring into existence a different kind of energy system.

MR. KLARE: (Inaudible) it's in the nature of a question, really, to Melanie, but I thought that Melanie was going – said that \$17 billion had been spent on this over the past 12 years. But what's a rough ballpark estimate of what it will take to produce an alternative energy program in 25 years that will have zero growth in emissions and substantially increase imports? My sense is that this will cost a minimum of \$100 billion a year for 25 years, rough ballpark, but I'll be curious what she says. And I don't see how this can be done without taking that out of the defense budget and the money we spend to protect oil because we spend about a third of our quarter or a third of our defense budget on protecting the flow of oil and the choke points – the Strait of Hormuz. That has to be the source of the money.

MS. KENDERDINE: My short answer is, I have no idea what it will cost. I would say that I found it very disturbing that the debate over the energy bill wasn't so much this time, but in the last Congress when the final bill was filibustered. And there was just outcry that a bill that authorized programs for ten years cost \$31 billion, so I thought the debate was precisely wrong; that \$3 billion a year when we are seeing, one, what energy is costing consumers, just because there's been a hurricane in the Gulf of Mexico, but \$3 billion a year to spend on our energy future is a ridiculously low price.

And when I talk about point of clarification here to – if there's press in the room, when I said \$17 billion for DOE applied-energy R&D programs, and by these high-level measures those – the programs are a failure, that's not to say that the programs themselves are failures. And sometimes I think our high-level measures are incorrect measures. It's just that that's what the public thinks. That's what the politicians think are the measures of success, and those have not been achieved having spent \$17 billion, so it's not enough money.

But the one thing that I've been working on – and we actually did get in this energy bill – was setting up a trust fund for natural gas supply R&D. And it – setting aside whether the policy differences – and I personally believe it's very counterintuitive, but we should be supporting supply R&D. The president will say, oh, we should be leaving the oil and gas R&D to the hands of the oil industry. They can – they're making a fortune. They can pay for it themselves. That assumes that the oil and gas producers are acting in the public interest, and they are not. They are acting in their own interests. They're acting in their own business interest, fiduciary interest, whatever. That's what they do for a living. That's not the public interest.

And so I know it's counterintuitive to say that we should be supporting that kind of R&D, and then I – this is for natural gas, but we should be. And people ask me, do you – I have directed spending in there. It's a trust fund set up at the Treasury Department to do applied energy R&D. In my view we have to take that out of the annual appropriations process or you can't do good R&D. It's very, very difficult to do it on an annual basis.

MR. MINSK: I wanted to quickly follow-up –

MS. COHEN: Yeah, go ahead, Ron.

MR. MINSK: I wanted to quickly follow-up on Leon's point on governance. And I think that what we're really seeing here is that our energy policy over the past – going – really going back for decades, we've just had a giant failure of leadership. I mean, the Clinton administration failed as well in the sense that we didn't move forward in the ways that might have been necessary. We had not an excuse, but an explanation, and that is that prices were low and it's really hard to get people focused on a problem that won't happen for years when oil is selling for in the teens per barrel.

This administration doesn't have that explanation. They – we're now looking at record high prices, and they still don't seem to be wanting to do anything about it. We need a changed mindset in this country. We have a sense of entitlement that we are entitled to cheap, plentiful, secure energy. When doubling CAFE is within 20 years going to do nothing but hold us steady, the notion of arguing as to whether CAFE should go from the mid-20s to the mid-30s is almost comical. It's going to do – it does nothing to solve the problem on a scale that we – that we face. We don't need a car that gets 35 miles a gallon. We need a car that gets well in excess of 100 miles per gallon and is on the way to being fueled by something else. And until the politicians have enough courage to stand up and, I think, dissuade the American public of this sense of entitlement, we're not going to really make measurable steps or meaningful steps towards reducing the vulnerability, but at some point it's going to slap us in the face.

MS. COHEN: Okay. Thanks. We'll move to the audience questions now. Just quickly, we'll – if there are press in the room, we'll go to them first. We do have a microphone, so I'll call on you and please wait for the microphone. If you could identify yourself, that would be helpful. And if we could stick to questions, rather than preambles and statements that would be great. So are you with press in the back? Are there any press questions first? Anyone? Okay. We'll go to the gentleman back there.

Q: Hi. Tom Collina, 20/20 Vision. Thank you all for your presentations. Two quick questions on the energy security nexus of all this. One, if we were going to make a list of the top ten things that we could do now to prevent another war in the Middle East, where would you put oil dependency or oil consumption on this list? And maybe this is for Michael and Leon.

And second question, what are the implications now of Iran moving towards nuclear weapons sitting so strategically as they do at the mouth of the Strait of Hormuz? How does that affect our gulf oil security? Thanks.

MS. COHEN: Either of you?

MR. KLARE: Why don't I start and then – I think as I said in my comments at the very end very briefly, our biggest problem in the Middle East, I believe, is our ties to the oil potentates in the region, that this is seen – I mean, polling data conducted by – my mind's gone blank, our colleague at the University of Maryland. No, sorry. Polling data shows that the principal objection to the United States and the Middle East overwhelmingly is our support for people like the Saudi royal family and the other kings and sheiks and rulers of the region, ditto in Azerbaijan and Kazakhstan. And that relationship is, I think, driven by the sense that having those rulers in place is good for our access to oil, and I think we really have to begin to avoid future conflict in the Middle East and terrorism, have a clear-stated policy of reducing our close embrace – evil embrace I would say – of kings and dictators and as a price of their support in getting us oil and moving away from that very close relationship.

Just quickly on Iran, I think the issue of an Iranian nuclear weapon is something that will be hyped up in the months ahead, but that's far in the future. What the Pentagon worries about are anti-ship missiles and mines and relatively primitive weaponry that the Iranians have that they could use to mine the Strait of Hormuz or attack shipping in there. It's conventional weapons, not nuclear weapons.

MS. COHEN: Leon, did you have anything to –

MR. FEURTH: Yeah. It could be that an Iranian nuclear capacity is a relatively distant issue as these things go, but there are events which (make?) the near term and prove to be dispositive as to whether they obtain that capability.

MR. KLARE: Yeah, yeah.

MR. FEURTH: You can see that the tendency in the European Union is to always find the next graceful reason to retreat from the previously drawn line in the sand where that program is concerned. And I'm not sure there's much room for much retreat before the effort becomes demonstrably hollow, in which case the predicate is laid for Iran to ultimately acquire those weapons at whatever rate their technological capacity gives them.

Okay, so the consequences of Iran's having nuclear weapons, especially ones that can be carried on the second generation of ballistic missiles that they be working on, the consequences of that need to be understood not in terms of the rate at which they can build these things, but at the rate at which the gates are going to be unlocked to them, and that's – those are events which are underway now. So it's really very worrisome.

As regards preventing the next war in the region, well, I'm not sure because the largest single war in the region is the one that the United States is engaged in in Iraq, so where else did you have in mind as the next location for a war? With Iran?

Q: In general, we wanted to review the potential for another conflict. How would reducing our dependence on Middle East oil in particular rank in your mind on what things we could do today to reduce the probability of something else?

MR. FEURTH: I think I'd undertake that for reasons of the sort that we've been discussing rather than with the idea in mind that it would prevent a war in the near term. I'm more concerned, let's say, about how we deal with Syria, what happens if Iraq collapses and disaggregates? These are the things that might trigger war and they may well happen much sooner than any oil plan that we can come up with can take effect.

MS. COHEN: Okay. Thanks. I see a question here in the front, the lady in the red.

Q: I'm Laura Chin from (unintelligible) International, and I have also worked with the Red Cross in the Katrina response, and my focus is on humanitarian aid after

emergencies. And as such, I have a slightly different perspective. And what I'd like you all to comment on is what a serious attack on one of those chokepoints would look like in the first two weeks. What would happen? Sort of, what's the worst-case scenario? Not talking about sort of the 20-year worst-case scenario, which I think you've laid out very clearly, but what's our vulnerability to an incident that could happen tomorrow?

MS. COHEN: Do you mean chokepoints around the world or specifically here in America?

Q: Both.

MS. COHEN: Okay.

Q: Choke points in the Middle East – if we were not able to import oil for a month.

MS. COHEN: Anybody want to tackle that?

Q: What would that look like?

MS. KENDERDINE: Well, if there was an attack on the Strait of Hormuz, for example, where they're moving 15 million barrels of oil a day, there are strategic stockpiles around the world of, I don't know, 1.3 billion barrels of oil. You know, depending on the nature of the loss in the attack, assuming it's malevolent, you would lose a significant amount of oil, but there are ways to accommodate that using strategic stocks.

I would hope – Vice President Cheney indicated before the election that he would only use the strategic petroleum reserve in the event of a loss of five to six million barrels of oil a day. That is an enormous amount of oil, and somebody actually sent me a copy of that with a note saying, don't have a full mouth of coffee when you read what the vice president said, because that's a huge shock to the system, so the Strait of Hormuz is enormous. Right now, it's 15-plus million barrels. But there are ways to accommodate that. And quite frankly, a lot of that also depends on what time of year it happens. If you lose your natural gas, assuming we increase our imports of LNG, which we're doing, if you lose it in the winter, it's a lot more impactful than if you lose it in the summer. And the opposite is true of oil, although Europe uses a lot of fuel oil. They heat with oil, and the northeastern United States heats with oil, so you would have a much – a greater regional impact in the winter if you lost oil, but in general, it's a summer fuel.

MR. MINSK: I was involved in a project earlier this year, and one of the things we were trying to do is model the price effects on oil of different types of event that could take several million barrels off. And even taking three or four million barrels off, depending on the scenario and depending on how people thought that that would play out over time, was essentially working outside the range of the models. You are talking \$150, \$200 – no one really has a clue in the world as to what it will be because it's so far

outside of our experience. It's true that we have strategic stocks, but something to remember is that the strategic – I mean, spare capacity is one of the things you have to cushion yourself against supply interruptions. And then when there's no more spare capacity, the last thing you have is strategic stocks.

Well, you've seen what happens when spare capacity in the world essentially has run down. When you get down to the point where you have no more strategic – no more spare capacity and you start going into your strategic stocks, everyone in the market is going to realize that whatever – to the extent that you were walking on a tightrope before – on a steel cable before, that you're now like walking on a really thin thread and that, sure, it'll help, but I don't want to be there when it happens. I mean, it's going to be – it would be bad. But again, a lot of that would be a function of the extent to which the market perceived it as being short versus longer term.

MS. COHEN: But there's no spare capacity now at all.

MR. MINSK: I mean, there's no spare production capacity –

MS. COHEN: No.

MR. MINSK: And there's minimal in the world and the strategic stocks are it, and even they have a limit. And of course, you're always – you're going to be concerned. Should we use them today? Because if we use them today, we're not going to have them tomorrow. That's always the giant problem in trying to figure out when to use your reserves, but if you use them, they're gone.

MS. COHEN: Michael, you had a comment you wanted to make?

MR. KLARE: Yes, and I'm glad that you asked that because it reminds us from a humanitarian point of view the number one lesson we learned of Katrina as far as I'm unconcerned – I hope everyone in this room is listening – is that poor people experience these different than middle class and rich people. And poor people suffer with their lives in some cases. And the kind of situation you described would be a life-threatening event for poor people because oil prices that go up to \$100 to \$200 a barrel will prove insurmountable for poor people in many parts of the world who rely on it for farming or to get their food to market, so people will die of starvation or of other causes if it's prolonged. And poor people in this country with the natural gas prices rising that we heard about, wealthy people will be able to pay for that, and so what's the big deal? They'll go out and eat fewer fancy meals that month.

But poor people, people on – elderly people on fixed incomes are going to have to choose between eating, medicine and heat this winter in some areas. And if they make the wrong choice, they will die. So really, a catastrophe like you described will have life-threatening effects for many, many poor, low-income people.

MS. COHEN: But that's in the U.S. The developing world –

MR. KLARE: That's in the U.S. Yes, I will –

MS. COHEN: – is decimated by these prices.

MR. KLARE: It's a lot worse.

MR. MINSK: I mean, this affects fertilizer. It affects the ability –

MR. KLARE: That's what I was going to –

MR. MINSK: – to get fuel to market, food to market, whatever. It's devastating in the Third World when you see prices like this.

MS. COHEN: Yeah. Okay. Do we have – there's another one in the back there.

Q: Thank you. Could you all address or discuss the role or lack of accountability by the DOE and the – whatever energy policy we have now? What changes – Mr. Minsk said we need to change our attitudes. We sort of feel like we got all this, and we're more deserving. So if I have to change my attitude, don't the elected officials who are representing me have to do the same? So what about the role of the DOE? Is it accountable? And the energy policy this administration has, what would you change for the next administration? Thank you.

MR. MINSK: I mean, I think that it's hard for people at DOE to try to lead where the politicians and where the people don't want to go. I think that maybe the best thing that DOE can do is to try to do a better job of getting people to understand the nature of the problem, to make an environment in which a politician can stand up and say, "Yeah, the price of gas is high, but that's not necessarily a bad thing," or that, "Yeah, it might cost some more money to make a more efficient car, but we really need to do it," or "It might cost more money to not import liquefied natural gas because prices come down when we bring in more supplies, but doing so subjects us to the possibility of a gas cartel, just like an oil cartel."

Everyone – you have to be willing to understand just how badly things can go wrong, I guess, and that's what DOE might be able to do before the politicians will have enough courage to be willing to stand up and say, "This is the money that we have to spend to solve the problem," or not to solve it, to begin addressing it. I can't blame the people in the agencies if the leaders aren't willing to kind of demonstrate some real leadership for the problem.

MS. KENDERDINE: Ron's – I worked at DOE for eight years. There are excellent and very dedicated career employees at DOE. Generally speaking, they take their lead from the political appointees and so it changes from administration to administration. And I won't go again into kind of the boring aspects of research models and trying to do research under appropriated annual appropriations and all of that.

What I would say from experience at the department is that its energy efficiency office, for example, is completely separate from its office of fossil fuels. And they don't like each other, and they don't – don't really speak to – I mean, they don't speak the same language. Efficiency is in with renewables when, in fact, we are talking about efficiency by and large 86 percent of fossil fuel use. And so they're – and the way it's organized, there's a disconnect between supply and end use in the department. Trying to figure out how much the department spends on natural gas R&D from supply to end use – I know a consultant in the outside world gets paid – that's a full-time job, okay, trying to figure out where the real natural gas money is because it's in so many different places.

And so – and I would – and Leon mentioned this, and we tried to do this when I was there is to do much more of a portfolio – an R&D portfolio process where you are lining up your research against large, strategic goals that takes you out of the stovepipes that you have in bureaucracies. So at any rate, I'm sorry, I have to catch a plane, and this was half an hour later than we had originally thought, so –

MS. COHEN: No, we thank you for staying through the very nearest deadline that you have, and thank you for participating here.

Leon, did you have a – you wanted to make some remarks to that question?

MR. FEURTH: I've already beaten this over the head, but my idea of what has to be done is to organize according to task, as opposed to organize according to bureaucracy. So when you said, what does the Department of Energy have to do to save our hides, my thought immediate was, it isn't just the Department of Energy alone. It spreads.

So in the executive branch, one tends to really just sort of allocate tasks by subdividing them among existing agencies, but not design a strategy according to total output of the strategy, and not administer it in order to achieve a set goal. Instead, it's distributed to the bureaucracy and let to run that way. So I think in the executive branch, one needs a new style of conceptualizing the problem, and then of organizing the system to deal with it.

I think the Congress can actually help, if you can believe such a thing. First of all, the Congress needs to begin to organize itself according to task. And if the task is how to assure a reliable energy supply for the United States under a variety of tests of difficult conditions, then the Congress should be organized to address that question, as opposed to organized to suit the mandates of the various committees and subcommittees.

You can't expect the Congress to exercise oversight over a complex agenda to extend over ten years if the oversight process itself is both dormant and fragmented, which it presently is. But the Congress has at times stepped in and told the executive branch how it was going to do business. The Goldwater-Nichols Act substantially reformed the way – over a 20-year period – the way in which the Joint Chiefs of Staff

operate, and through that the way in which the military attempts to operate. It declared that the color of one's uniform was irrelevant in comparison to the need to successfully cooperate to realize the national security strategy. Well, we need a similar inspiration when it comes to civilian government.

MS. COHEN: Okay. We've got lunch waiting, so we'll have one final question from the gentleman here in the front.

Q: Ira Shorr, Physicians for Social Responsibility. When you talk about the government's inability, let's say, to move in the direction we all know that we have to move in, what do you think the potential is right now to get past the corruptive power of money in the system and the fact that the fossil fuel industry is inherently tied to keeping the status quo going? I have thought recently that the United States would be a leader in confronting global warming if the Bush family had made their money in insurance instead of oil. We were sort of one industry away from being a leader on the positive side.

So does Katrina – or are we near to sort of a critical mass where the public knows what's at stake, the politicians will have to respond to that to get past that corruptive influence of money in the status quo so we move towards the vision of getting away from fossil fuels.

MS. COHEN: Anyone want to tackle that?

MR. FEURTH: Well, there is the drama in the last act. I believe in free will, which means that one can exercise choice to create or exercise choice to destroy. The same applies to the American electorate. There is no rule written in heaven that says that the American people will collectively exercise the wisdom required to force the political system to do what is right for the long-range interests of our society, but that's the proposition being tested.

MS. COHEN: All right. Well, before we go to lunch, you should know that many of our panelists have either authored or are contributors to books that are available in the foyer, so over your lunch be sure to browse those. And please join me one more time in thanking our panelists.

(Applause.)

MR. CROWLEY: As Ana said, we will take a lunch break and we'll reconvene at 1:30 with our luncheon keynote Governor Jim Gilmore of Virginia, so we'll be back in our chairs at about 1:30.

Luncheon Keynote Address

P. J. CROWLEY: Well, we'll get started with the afternoon portion of our program. Lunch held most of you in your interest, and we appreciate that, and obviously when we talk about homeland security it does need to be a partnership and it does need to involve the collective efforts of the federal government, state and local governments, and the private sector. No one element is going to be critical and we will not succeed unless all of those elements are fully engaged. We were grateful to have at the beginning of our program, someone who is now a congressman and who was previously a mayor. In between, we are now privileged to have someone not only who has been a governor, been intricately involved in homeland security policy before we even used the term homeland security and also is a governor who also know what it's like to be attacked because on September 11, 2001 he was in fact the governor of Virginia, in addition at the very same time of being the chairman of a commission that had been put together by the White House and the Congress in the late '90s to focus on our ability to respond to potential attacks, at that point, involving weapons of mass destruction.

So Governor Jim Gilmore comes to us having spent a significant amount of time and effort focused on how we can cope with disaster response and how we ultimately need to build a more effective capability of national preparedness, knowing that in all likelihood we will be attacked at some point in the future. He is also a testimony to the fact together the two of us that there is life after Crossfire. We first meet each other on the set at Crossfire, debated each other at various times. I remember the first time we were together I was the experienced one and he was sitting there going, "Boy, this guy looked friendly in the green room." (Laughter.) But there were various times where we could kibbutz beforehand and one of us would say, "Well, I like your talking points better today – you like my talking points better today" but, Governor, we really appreciate you're coming.

He is, in addition to being the former governor of Virginia, an Army counterintelligence officer and he is now chairman of what is called the National Council on Readiness and Preparedness, so they had their first introductory conference here in Washington yesterday and is trying to both improve the networking among our various – the various elements of our society that are critical to response: first responders, political officials, EMS, and other kinds of – those who have the technical skills that will be vital in a time of crisis. In fact we were just talking that organizations like NCORP may well be able to provide the ability, as Dave Farber was talking about, of being a test bed: trying out various approaches to homeland security and then offering that experience to our first responders around the country – say "Hey, check this out. This may in fact work." He is a partner at the Washington office of Kelly Drye & Warren, where he chairs the homeland security practice, and he is president of USA Secure, which is also a nonprofit homeland security policy institute.

Governor, thank you for coming to Center for American Progress.

(Applause.)

GOVERNOR JIM GILMORE: P. J., thank you very much. It's a delight to be here today with your wonderful center and, let's see, I guess we've got 60 or 70 people here. It's very great to be here with all of you today. Actually P. J. and I are sort of the odd couple of public policy here: he's on the left, I'm on the right typically, as I am sure you would expect. In fact, P. J., thank you very much for the nice steak sandwich that I had here today. I was going to have chicken, ladies and gentlemen, but P. J. could not assure me it was from the right wing, so I decided to pass on it. (Laughter.)

What I'm going to today is talk –

MR. CROWLEY: The steak was from the left flank.

GOV. GILMORE: That's right. Oh, that's bad. (Laughter.)

The talk I'm going to do today is more policy oriented. I think that what you've had some nuts and bolts here today and some things that you're doing. I want to talk to you a little bit about some of the policy implications of homeland security, what I've been doing, what I am doing, and some of the what I believe to be the key issues of homeland security are today. We'll have maybe a little fun with it in questions and answers.

I certainly want to recognize and acknowledge Congressman Jim Turner who is here. Congressman, it's great to see you. We appreciate your leadership in the Congress, particularly on homeland security issues and it's always great to see you today.

I want to fill in just a little bit give you a little back ground on what P. J. was talking about with the commission. In 1999, the Congress had a sense of unease about the issue of homeland security. Now, I want all of you all to think about what you were doing back in 1999 – six years ago. I don't know what you were doing, but I'll bet you weren't thinking about homeland security. There are a lot of things that were going on around this town, too, at the time that didn't have anything to do with domestic terrorism, but Congress on the other hand was just uncomfortable. They had a sense of disquiet about what the future might hold, so they passed a statute. Curt Weldon, congressman from Pennsylvania, was the spark plug behind it and got a statute passed by the Congress to establish a national commission which they have called the Advisory Panel to Assess Domestic Response Capabilities Involving Terrorism and Weapons of Mass Destruction. Now that – in Washington if you can't reduce it to acronym, you can't say it, and you can't reduce that to an acronym so they just called it the Gilmore Commission. If you want to take a look at the reports on this it was managed for us by the Rand Corporation, they provided the executive staff work, so you can find it in rand.org and just put Gilmore Commission into the search vehicle and all the stuff will come up and you can take a look at the different reports.

I was approached at that time by the Clinton administration, which was in office at the time that this statute was passed for this three year commission. I was pretty surprised by the way, to be approached by the Clinton administration and asked whether as governor I would chair this commission. I am sure you can imagine I had a fair reputation at the time of being a pretty Republican governor. I was in fact a Republican governor, but I was actually a very (unintelligible) Republican governor and, nonetheless, the Clinton administration approached me and asked me whether I would do this and agreed to do it.

The commission was not made up of a bunch of people out of the beltway who were considered to be sort of wise men in the establishment of Washington. This commission was made up of police, fire, rescue, emergency services, some retired general officers, some intelligence people, epidemiologists, healthcare people; in other words, people who would actually have to do something if the event ever actually occurred.

So we went to work this. The first year, in 1999, we did a report in which we assessed the threat. And in that report, which you can still find, we assessed that the chances of a true weapon of mass destruction attack on the United States were not particularly probable. It's hard to get that stuff. It's hard to deliver it. It's hard to weaponize it, but the commission did not feel we could rule it out because if, after all, you had a true biological attack or a nuclear attack inside the United States it could have been and could be republic transforming, so we decided that even though it was not very likely we needed to focus some attention on it.

On the other hand, we asked this question: is it likely that there is going to be some type of foreign-based terrorist attack in the United States in the immediate future? And the answer that we reached was absolutely, highly probable that there would be an attack in the United States. We also noticed that there was zero national strategy to deal with it and that one needed to be developed. We reported this to the president and to the Congress in December of 1999. That was the first year.

The second year that we worked on this commission, the year 2000, we did probably our best policy work. We pointed out at the end of that year to the Congress, to the president that there was still no national strategy after two years of work on it, that we had better get one, and that a national strategy needed to be federal, state, and local. Now, in Washington, D.C., to suggest that some type of national issue or strategy should go beyond the federal government is not understandable in Washington, D.C. It is simply intellectually not comprehensible, so it was very difficult for anybody to pick this up – federal, state, and local. And of course later on we realized that you had to have the private sector involved as well.

We pointed out the necessity of, in fact, sequencing in forces in the right order, in order to be able to meet and deal with these kinds of issues. Local people would be the first responders – they had to be focused on. They had to be gotten ready – that the state people would be coming in right after that in order to support it, and then that the federal

people would sequence in probably several days or maybe even considerably later. We also expressed concern that we focus on the fact that the local people would need to be supported at the state level if necessary by the National Guard controlled by and commanded by who? Who controls the National Guard?

MR. : The governors.

GOV. GILMORE: Governor. The Governor controls the National Guard. State authorities control the National Guard unless federalized, of course, and then keeping the military people as far back as possible and then sequence them in last, if at all.

We focused on the attention that the intelligence community was not talking to each other in any way shape or form at the federal level, that there was a great deal of jealousy and cultural barriers and even some times legal barriers in the way, and that there was no communication going up and down vertically between federal, state, and local people in terms of information or intelligence. That was the second year's report.

The third year report, we did some detail work because we were getting ready to go out of business in the three-year commission. So far, I might add, we hadn't noticed that anybody had actually read any of our reports you understand, anywhere. The press didn't care about it. We kept telling the press to come and cover these things and they didn't care; nobody did, though, really think about what the world was like at the time.

But in the third year report we focused on five key issues: on state level – well, we focused on how you sequence in and build a strategy with state and local people – how you do that. Secondly, healthcare, probably our strongest and best work was in the area of healthcare, in case there might be a pandemic or a direct biological attack by an enemy. What do you do about public health?

Thirdly, border control. The really serious concern we had that the borders were very porous and if drugs could get a crossed the border, then surely terrorists could if they chose to come in illegally. We dealt with the issue of the use of the military in the homeland because we continue to believe that there is a serious policy problem which I will talk about in a minute, and then cyberterrorism. So those were our issues and we were done.

The first week of September we finished the report, typed it all up, packed it off to the printer, figured we'd get it back in October, go out of business a little bit early, save a few bucks for the Congress, and everybody would be happy. And then of course a week later 9/11, the attack came – the major attack in New York. I was the governor at the time. I did what was necessary, and I had been stepped in this for three years of course so I put some procedures into place.

We warned – as soon as I saw the attack in New York, I immediately picked up the phone and warned the state police that if there was evidence of gunplay anywhere in

the state of Virginia that the Central Operations Center should be warned and notified. I activated that Central Operations Center. We alerted the National Guard.

We only had one communication, by the way, from the federal government that day in the state of Virginia – only one. And that was the commander of the Atlantic Fleet called me to warn me that they were sortieing the fleet out of Hampton Roads into the Atlantic Ocean and that if there was panic in Hampton Roads as a result of that mass movement of ships that they wanted the governor to be aware of that so we could engage in some public communication.

Well, bottom line is that, well, I got over to the Governor's office just in time to find that the second state had now been struck that day, and the second state to be directly attacked was Virginia because the Pentagon is in Virginia. So who responded? Well, it wasn't the 101st Airborne: it was Alexandria, Arlington, Fairfax County. Later on Montgomery County came across the river. First responders, police, fire, rescue, emergency services, hospitals. Later on, more and more local responders sequenced in through the coordination of the respective states. That's what really happens when these instances occur. It is not perfectly understood in Washington to this day.

On the fourth report – the Congress then extended the commission two years, so we went on two more years. The fourth report focused on the intelligence community and what needed to be done to break down the cultural barriers of intelligence and how you deal with those kinds of issues.

And then the final and last report was intended to be visionary. You can find that report – and it was a warning – a serious warning that we were existing at this point in a mental attitude in the United States that could indeed place our civil freedoms in danger in the country and that that had to be addressed in a serious way. So now I am going to spend the rest of the time that I got, and I don't have a watch today, Jim, so if I start running over, Congressman, wave your hand if you would and then we can have some fun maybe with some Q and A.

But I want to talk to you about four central issues that I see because I think that these are the main policy issues that we are facing today in homeland security. Number one, it just has to be a national response, ladies and gentlemen. It just has to be a federal, state, local, and private sector response. The country is just too big to try to put all this on the federal government. There's a lot of discussion about Hurricane Katrina, about the failings of FEMA, and all that sort of thing and you can debate and argue about FEMA and whether they were effective or not, but the notion that somehow the federal government is suppose to parachute in after a catastrophe, whether it's manmade or not, and fix everything is sheer nonsense and it just continues to point out that the studies we have done have not been focused on.

You have to determine who is in charge. After five years – six years now since our commission began and asked the question of who's in charge, we still really don't know who's in charge at the time of a either a terrorist attack or catastrophe. I humbly

believe that it will be the locals who will be in charge. The incidence commander at the Pentagon was the fire commander from Arlington, I believe, and no federal official was ever permitted to take charge at that scene over there at the Pentagon. But we just have to get all this settled so that we're not arguing about it and people are not dying at the time that these kinds of problems are being dealt with.

You need to have an all-hazards approach, one that will deal with hurricanes like Katrina or will deal with Terrorist attacks like 9/11. We have to deal with these kinds of issues and I am trying to help. We've established a 501(c)3 called the National Council on Readiness and Preparedness. It's a frame work organization called NCORP. You can find that on the web page ncorp.org. As recently as yesterday, I invited in a general call to people in the states and the localities, a selected group of leaders across the country and invited them to come to Washington in order to confer and begin the frame out an organization that would begin to cross-communicate people at the local level. And I am pleased to say that while we were hoping for about 250 people so we could get started from a cross-section across the country, we had 600 people come in there yesterday. We almost, knocked the Hilton down because we just didn't have any idea that we were going to be dealing with all these folks. But 35 states were represented including, Congressman, major representation from Texas as well as Washington State, California, South Carolina, North Carolina, Florida. All over the country, people were coming in in order to participate in the National Council on Readiness and Preparedness.

I think that we have to focus on a good program. It has to be focused on local initiative, and this is really key. The problem we've got is that when we set up the Department of Homeland Security which, by the way, our commission did not recommend – when you set up that department you created thinking in the country of deference to the federal government, which I had just told you can't do this. We don't run the United States from the federal government. We don't, so why would we think that we can now have a homeland security exclusively from the federal government? But there is a sense now of deference. The federal government has almost all the money. As you all – I am sure everyone in the room knows we far overtax people in the United States of America, and they got all this money, so there is a sense that you've got to defer to the federal government because they got the cash, and as a result of that there is a tendency toward disorganization and inactivity in the states and in the localities, and that mental attitude has to shift and has to change.

What I told them yesterday and which I will tell you is that the people at the state and the locals have got to stop thinking that in the time of catastrophe, whether terrorist or otherwise, that they're going to come and save us, because there is no "they." There is no they. We are they, and that is the truth, all the way from the states, locals, private sector, and citizen leaders. We're all we've got. The feds will be along, but it takes a long time and that needs to be full considered.

We believe that there ought to be some serious programs like a responder corps; people who have been in the police and fire and rescue and are now out doing other things in private life that ought to be brought back under some type of statutory immunity

construct to support and to emphasize the support for the local responders. People can do this type of work but we don't really seriously engage them. We believe there ought to be crisis response officers in all the corporations, someone who is there to actually look at their critical infrastructure and ask what they have and what they have to do to fit into the bigger picture of homeland security within their communities. In fact, we think there should be one in every one and they all ought to be networked, and then they ought to be networked with the real business end of this job: police, fire, rescue, and emergency services and the people who are actually going to do this job. And it wouldn't hurt to have citizen leaders either; people who are out there, and leaders in their community who are looked to by the friends and neighbors for leadership so that we know what we are doing.

The second point I want to make is the issue of the use of the military. There is a lot of discussion these days, this is why P. J. invited me to come, and he thinks I am kind of a renegade on this, I suppose, but the use of military is a very serious issue right now. It has been suggested that perhaps we ought to think seriously about militarizing the whole thing. Now, if you are going to have catastrophes like Katrina and the states can't handle it, fine, through in the towel and let's get the 101st Airborne out there and get them ready to go because they are the ones – the military is going to have to be the one to move in and handle these things.

I suggest to you, ladies and gentlemen, that based upon the previous talk I gave you about our commission, that this is the exact wrong policy. We would be federalizing the response in a serious way at that point, not to mention militarizing it. It is exactly the wrong – direct wrong way to deal with homeland security.

Why is that and then what should we be doing about it. First of all, let's – what we should be doing about it. If we really think that the states and locals can't handle a terrorist, major attack or pandemic or a hurricane, then it's our duty to get them ready to do so. It's our duty to get the states and the locals ready to go. Give them a reasonable approach, give them the proper equipment, and get them trained and exercised so that they are ready. The answer is not to simply throw the states away. That would be a typical, federal, contemptuous sort of attitude toward the states and locals. And instead militarizing this – militarizing it is exactly the wrong approach. Number one, it hurts the military. The military has plenty of other things to do right now. They don't have time to get into the business of police, fire, rescue, and emergency services people. That is not their job. The military is trained to be a military: to go overseas, kill the enemy, and protect this nation. That is what they are supposed to do and that is what they are in fact doing.

And I would suggest to you that if we have an international body of people, whether political or criminal, that are dedicated to the destruction of human – American human lives, you've got to take you military overseas and deal with that kind of issue. You can debate about how to do that – I understand all that – but to sit around would be intolerable. And I think the president is doing it right by seeking people like Osama bin

Laden and al Qaeda out and trying to destroy these people before they can kill American citizens.

Second of all, it hurts the military because their mission is going to become muddled up at that point. They're not trained to do it and we should not be working in that direction. Second of all, it gives the ownership of this to the feds – the exact wrong policy. We need to be instead focusing back on the states and locals with federal support and private support. And then thirdly, of course, it is inherently dangerous because history has demonstrated that it is inherently dangerous to begin to get the American people imbued with the notion that if we have a problem in the country that we are going to immediately move in the regular military to control the streets. Down through history this has been a very dangerous proposition and we should not be thinking about doing that. The freedoms of the country and the fundamental propositions are too important to begin to move things in that type of direction.

To the extent that NORTHCOM has been suggested that they should do this type of work, they should not be, in my view. Admiral Keating, who is in charge of NORTHCOM, a United States organization set up for the purpose of controlling the military in North America – Admiral Keating has suggested that maybe the military are the only people who are properly organized to do it. And I would respectfully disagree that that should be the ultimate mission of the United States government or our society and homeland security.

NORTHCOM, by the way, is an organization that's of course as we know in search of a mission. NORTHCOM was established – has been set up – I think the Congress suggested that it be set up erroneously, and so as a result of that you have got a military organization that is supposed to apply proper military resources inside the North American homeland. And NORTHCOM is responsible for military operations in the United States, Canada, and Mexico, which I would think would be sort of startling to the Canadians and the Mexicans I would think, but nonetheless – actually, our alliance with the Canadians is so good they probably don't worry about it too much. It's a pretty interesting type of proposition that we have done.

Now, the next point that I would make – third point very quickly – is I think we have had a failure of public communication. The mission – the communication that we have had for a number of years now with the American people is – let me see if I can sort of paraphrase the message – it's "We're all going to die." That's really sort of what we have been telling people, scaring the jibbers out of the people. And I don't think that's right. I think that we are not all going to die, and the United States is not going to collapse, and the republic is not going to go away. We have seen worse than this and lived through it and we will again. So I think we lack a sense of perspective right now because we are so close to this issue and we were so tremendously traumatized by the attack on 9/11 that we don't have the long view of where we have been and where we are going and I think that we ought to communicate to the American people we are going to get as ready as we can get and we are going to be okay here and I will maybe return to that at the end.

And fourthly, the issue that I would want to point out to you is the civil freedoms of the country, which I think is a serious imperative problem which we need to address right now and we have had a lot of problems with this. I want to read something to you. I did some reading the other day on the *Federalist Papers*, which I consider to be the real touchstone of American freedom, and I came across the *Federalist* Number Eight. I recommend the *Federalist Papers* to all of you all. All right? It's a great document. It tells you a lot about what we are as Americans, or at least I hope we are and I hope we will continue to be.

Alexander Hamilton actually addressed in *Federalist* Number Eight the issue that exists at this instant. He wrote this back, as you know, in the early part of the republic. Listen to this, *Federalist* Number Eight, "Safety from external danger is the most powerful director of national conduct. Even the ardent love of liberty will, after a time, give way to its dictates. The violent destruction of life and property incident to war, the continual effort and alarm attendant on a state of continual danger will compel nations the most attached to liberty to resort for repose in security to institutions which have a tendency to destroy their civil and political rights. To be more safe, they at length become willing to run the risk of being less free." *Federalist* Number Eight. He could have written it last week, except that what they're writing right now isn't as good as this. (Laughter.)

I've seen some polls that say that the American people are prepared to give up their freedoms in return for security in the war on terrorism and my view is that if that is the case, then it is incumbent upon us as leaders of the nation to never ask them to do it. And I think that that is the concern that I see right now.

When 9/11 occurred, there were two major strains in the society of America and they were very positive strains; they were driving and propelling things forward very positively. And since 9/11 these two cultural strains in the American society have become dangerous, not helpful. Well, they're still helpful, but they are also dangerous. And those two strains are with the managerial society of the United States – there has never been a more managerial society than the one we exist in right now. The great cathedrals of American society today are its business schools. Our attitude as Americans are if we see a problem, we are going to fix it. That is what Americans do, you see. No matter where it is or what it is, if we see a problem we fix it. That's what we do. Don't care how you do it, just going to do it. That's dangerous when you have a problem of external threat and terrorist attack; it's dangerous, as Hamilton so wisely pointed out.

The second strain is technology. There has never been a society as technologically sophisticated as the United States of America. I think that you even addressed some of it today. We are a very technological people, so now for the first time in history we have the capacity to fix the managerial problem technologically and to join these two things together in the war on terror. So for the first time – and this is maybe where I would see things a little differently from some of the people in the room – first time in the world if we want to give everyone a national identification card we can do

that. It's been tried before. The Soviets did it. The Nazis did it. It was very typical. Give people a card where they have to identify themselves in a routine, ordinary way to authority. In fact, I even heard there was a proposal in the Congress – Congressman, I am not sure if this is true or not – to require people to carry it. We want people's biological information? For the first time we can put all that right on a strip right on the card. How about watching what people are doing? For the first time we can put cameras everywhere if we choose to – everywhere.

As a matter of fact, there was an article in Washington, D.C., about how proud they were that they've got an emergency operations center with cameras all over the place, with cameras all down through Washington, D.C. I ask you a question: if you are going to walk across Washington, D.C., and you know you are being watched, will you conduct yourself differently than if you're not? Look at what store windows, what things you purchase, who you talk to. Will you? I would if I thought I was being watched.

What if you have technology that allows facial recognition so that the computers now can not only see you, they can figure out who you are? What if it's all tied into your Social Security number so that they can get all your background, your driving record, your criminal record, all the tax information? What if you can do that? What if you give information to the government, and to everyone else by the way, which as Americans you've always been willing to do, but you are fairly comfortable that it's all right because never the twain will meet you see – you're giving it here and here and here. What if you could put it all together and create one database? Do you think we could technologically do that? DARPA thinks we could do that. As a matter of fact, Admiral Poindexter was working on exactly that program wasn't he? And by the way, I want everybody to know here: I think – I've said it in my speeches, I'm going to be sure to do it again, I think Admiral Poindexter is a great patriot in this country, but I think he had absolutely no idea what he was doing or at least DARPA didn't, when they began to experiment with those programs. I hear that's been terminated, I think.

These are serious concerns that we finally have, so I leave you now at the end of this speech with a reminder of what Ben Franklin said. That's the other great founding father who opined on this issue. Ben Franklin said – this was 1759. They, in the coming years thereafter, came to understand something about tyranny on the American continent by organized armies. “They that can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety.”

I'm pretty optimistic to tell you the truth. I don't think I've come to you today with a downer type of message. I'm pretty optimistic because of the nature of what we are as Americans and the background and the history that we have had, and I think we are going come through okay, to tell you the truth. You know, you think about what we have been through as American people and the place where we are today in historical perspective of where we've been. People came to this country at Jamestown and there wasn't anything here. Native Americans to be sure, but it was basically wilderness all the way to the California coast and people cut the civilization out of the forest. You just think about that. You think about the fact that we threw a foreign army off the shores of

this country in the American Revolution. You think about the fact that in the War of 1812 the White House was burned. And think about what it took to open up the West: people putting their stuff in covered wagons and walking off across the plains. So we have been through risk before. We've been through this. It is in the American character to deal with these issues and I am very confident because of that American character that we will face these challenges even now in the 21st century successfully and we are going to come through all right.

So thank you very much for the chance to be with you.

(Applause.)

MR. CROWLEY: Okay, we have time for a couple of questions, Antoine?

Q: Yes, Governor Gilmore, I'm Paula Gordon. We have met on occasion before. I have a website called gordonhomeland.com. I wonder if you would address a couple of things that – recommendations – areas of recommendation that you've made. One, I think it was in December, it must have been the last report that was initiated or least. It had to do with economic development and infrastructure and putting money into developing deteriorating infrastructure and full employment – that kind of a policy approach.

The other is preparedness. I wonder, yesterday in your meeting were – did anyone mention the possibility of extending the recommendations for preparedness for a week or two weeks for personal, family supplies of food, water and medical supplies, that kind of thing? And also, any mention of public sheltering and storage of such supplies for future possible problems?

GOV. GILMORE: Well, let me take – and I will take – yes, actually, the second issue did come up yesterday as a matter of fact. Again, we had 600 responders – police, fire, rescue, and emergency services. We had 25 mayors in yesterday. It was a very great conference. It was a very exciting conference. In terms of infrastructure, we need to remember that infrastructure is pretty much in this country owned and operated by the private sector, so the challenge I think that we really face here is that the government and taxpayers really don't own all this stuff. They might own some things like bridges and some highways, but they don't own the electrical system. They don't generally speaking own the water system either or the other serious incidence of critical infrastructure across the country. So the bottom line is you've got to find a national strategy that incorporates in the private sector.

Now, the good news is that while they are very resistant to regulation, they are very interested in participating. There are a lot of reasons why they should, by the way. They should participate and protect themselves and protect their structures because of their liability, I think, if they don't. Its not like they are not on notice at this point that if they get attacked and their systems go down that there might not be some consequences to that. And they want their business continuity to go on, too. They don't want to go out

and lose all their people and lose all their revenue, so there are good reasons why they should be able to be fit into a national plan, but I think it goes back to the heart of it that we have to develop a national plan that builds in all the levels of government – federal, state, local and the private sector as well.

Now, there are federal proposals to do this. I don't know whether these things are being adopted quite the way that they should or not. It didn't work with Hurricane Katrina particularly well I don't think – some federal, on-high direction on all these things. But the direct answer to your question is that when I reviewed the national response plan, there was actually a call for some repositioning of food, resources, water and the necessities of life – repositioning of that by the federal government around the government.

I asked the question yesterday to the 600, because I frankly didn't know if that had been carried out or not, and they didn't all as one person stand up and say yes, so I think that this is still a process that is being in progress. Actually, I believe, at NCORP we came up with a similar proposal independently not knowing about it, which is that private corporations probably ought to be creating caches of resources for their employees and for their communities together with communities themselves and creating all this, like a bank, and repositioning it around the country. And then when you need it and you have a surge capacity for these things, you can draw on it and then put it back at a later time. This is just one idea that we are putting forward out of NCORP that I think that might have some currency, so I think that it does have some opportunity.

Next question. P. J., I don't have a wristwatch today so I hope that I'm okay.

MR. CROWLEY: We're fine.

GOV. GILMORE: And thank you for your work, by the way, on your web page.

Q: I am Richard Fulton with the American Jewish Committee. Thank you for your remarks, Governor. I think you referenced this in discussing your perspective on the topic of homeland security, but I wonder if looking at the 9/11 Commission report you might share with us your thoughts on what are the things that you think that commission got right and where do you think they got it wrong.

GOV. GILMORE: Well, two things. Number one, I want to put in word for DHS. Again, our commission didn't recommend the creation of the Department of Homeland Security and our reasoning was after a year of arguing about it, we had a – the great thing was that every policy thing that we put forward in our commission we had a year to argue about it and it was a very vigorous group of people. Paul Bremer was on the commission and a lot of other people. We argued a lot and our sense was that their needed to be a different way of creating a national strategy that would be over top of all of the executive branch offices instead of equal to it. After all, the secretary of homeland security is not superior to the secretary of defense or to the secretary of HHS or to the secretary of energy. He's just a player on the board. And we thought that there needed to be

someone in the Executive Office of the President with the president's authority who could choreograph the rest of the government. That was not accepted. Instead, the DHS vote was agreed to by both the Congress and the president.

We felt like it was going to be so bureaucratically difficult to manage that it would take years to set up and we didn't think we had years, actually we have had years. We've been kind of lucky here. We haven't had anymore catastrophes, so DHS has had a little breathing time to set up.

But with that being said, the second half of your question, I want to talk about that. What was it? The second half was –

Q: 9/11 Commission.

GOV. GILMORE: I actually have not been a student of the 9/11 Commission to be honest with you. I thought the 9/11 Commission was a very high profile commission, it was very flamboyant, and it seemed to me to be set up under the premise that blame was going to be found and I didn't think that all that constructive. In the end, they didn't do that really. They never really delivered on that thing that was the sort of premise on which they were operating. They never blamed anybody for anything, which was all right. I didn't think they should have in the first place.

But what they – I don't think that what they came forward with was much outside of the conventional thinking about homeland security except one thing: they really proposed that there be a national intelligence director over the top of all the other intelligence organizations. That's in fact been implemented. I haven't seen any more discussion about it, so I don't know how it's working, to tell you the truth – whether it's working well or not. I know that it's supposed to be supervising CIA, FBI, NSA, and all the rest of them and I don't know whether that's working or not, but I know this: they don't control the states and they don't control the localities. Therefore, they haven't addressed the essential problem that has to be addressed, and that is how do you get information moving down the chain to the people who need it – to the states and the locals? Unaddressed. It remains to this day unaddressed, and I can understand why. There is a sense of contempt for the states and locals; that they're not responsible, that they're not competent, that they are not able to understand these things.

P. J., forgive me, I've got to tell this story. I bet you people have heard it. Are you all aware of the fact in the room that when – and correct me if I am wrong Congressman. I have been saying this, so if I'm not right you've got to tell me. When people get elected to Congress they get a security clearance. Is that right?

MR. : I'm sure you're right, Governor.

GOV. GILMORE: They get security clearances. Do you know anybody in Congress that shouldn't have the security clearance? That usually gets a laugh, but the left-wing crowd doesn't laugh. (Laughter.) But governors don't and mayors don't, so

the information needs to get down to the places on the street where it can do some good. There needs to be some constant interaction and exchange of information. That isn't being done. I hope its getting better. Actually, I think FBI has worked mightily through their joint terrorist and task forces and try and make that better, but there are still serious cultural problems that have to be addressed.

MR. CROWLEY: One more quick question. Fred Millar?

Q: Governor, I am Fred Millar. I am a consultant with DC city council on homeland security issues. We have been trying to work on this problem of the transporting of cargos through major target cities that are weapons of mass destruction and I appreciate the work that you guys did about I guess what would be called conventional weapons of mass destruction, but it's a little bit boggling to us to figure out how to deal with this problem that routinely every day we are transporting cargos that the federal government calls weapons of mass destruction through American cities. I concretely experience that I can't get fire chiefs and police chiefs and emergency managers or anybody to stand up and say, like the *New York Times* has said, that this is insane: to preposition cargos of weapons of mass destruction in our city that could be going around.

And I think – what I think I am encountering is the opposite of what you are suggesting, which is that I think in the responder community we have an absolute consensus to “not alarm the public.” And they know the truth and they are scared to death about these cargos, but they won't stand up in public and tell people about it, so it is – I think it is nobody's job in the United States to prevent cargos which are weapons of mass destruction from being transported right through our high-threat, target cities. How do we work on that?

GOV. GILMORE: I think that it comes down to an assessment of the risk and an assessment of the threat. Theoretically the cargos can travel through D.C. and I am not surprised that the local guys probably don't say anything. They are probably – this is the District of Columbia: they are probably chicken to raise any of the issues and they aren't chicken out there in the real world. They are very serious about this out there and they are willing to speak up vigorously on a variety of issues.

However, I think that it probably deserves further examination as to whether this is a real problem or not. I don't know what they are transporting. It's probably not nuclear warheads. It's probably not Anthrax – carting truckloads of Anthrax either. Weapons of mass destruction are classically defined as biological, nuclear, radiological, or chemical. Chemical does probably come through the District of Columbia, I would think, by rail.

But here is the challenge I think for the United States: we have a tendency today to address these problems in terms of vulnerability. Could theoretically someone parachute in and derail a chemical car and really do a lot of chaos in the District? And, yeah, I think that that is probably true, but the challenge of addressing these issues in

areas of vulnerability is that everything is vulnerable in a free society. The only way to not make things vulnerable is to eliminate the free society, and even then, as most dictators have understood, even that really in the end doesn't work all that well.

So what do you do? I think the approach has to shift more to a risk-based type of approach, so I guess the direct answer is, how likely is it that whatever these cargos are that they are going to become the target of a terrorist threat? Now, in D.C. and New York maybe more likely than other places, but frankly in a media-age society you could derail it in Sioux City and if al Qaeda announces that they did it, it will scare the living daylights out of everybody from New York or Washington to San Francisco. So I am not sure that the location matters all that much from the point of view of the terrorists. So there is the challenge.

I have two responses. Number one, we should focus on what the real threat is and threat is not vulnerability. Threat is not vulnerability. This room that we stand in today is vulnerable, but it is not threatened. Threat is the capability and the intention of the enemy and that means that we've got to turn back, I think, to the intelligence community and work really hard on this.

And the second thing is I think we've got to understand that we're not going to know everything, and so then I think it comes back to the issue of public philosophy and perspective. If there is in fact going to be an attack, we have to put it into proper historical perspective and understand that it's terrible and we don't want anybody to attack us, but we have to start communicating to the terrorists that if they succeed in one place or another at the end of the day it isn't going to change this republic or any of its policies. And I think we are going to be a lot better off, with one exception. And that is in the unlikely event that the enemy can deliver a true weapon of mass destruction in the United States, then that is potentially republic transforming because of panic and fear and instability and that means that it's up to politicians, public figures, people in this room to put that into proper perspective so that if in the end we have that kind of catastrophe that it isn't republic threatening and that's why I came and gave this talk today.

Thank you very much.

(Applause.)

MR. CROWLEY: Governor, thank you very much. Governor, thank you very much. We'll take a five-minute break to allow us to set the stage for the final panel, so five-minute break and we will be right back at 2:30.

Third Panel: Public Health and Safety Infrastructure Security

P. J. CROWLEY: Okay, we'll reconvene here for our final panel on the critical infrastructure aspect of Hurricane Katrina involving our public health and safety infrastructure and the implications of Katrina. You know the plans that were clearly inadequate in both New Orleans and Houston, although clearly the folks in Houston learned a lot from their colleagues in Louisiana, their struggles to get people out of harm's way, the environmental damage that within 24 hours transported a significant portion of our country from the first to the third world. Leaders at all levels struggled before and after the storm and even that was with the fact that this was an accurately forecast disaster as opposed to the scenario that we could probably envision in the event of a terrorist attack. A surprising number of people could not or would not get out of harm's way in time, and despite extraordinary and compassionate efforts by public health officials in the region many in their care were lost in the hospitals and long term care facilities because effective medical care was all but impossible given the extraordinary circumstances.

So in light of Katrina how can we expect a public health system already under stress to function effectively in a degraded state if a biological agent or a pandemic is involved? Even many of those who could move literally ran out of gas, as we were talking about before we got started, on the interstates leading out of Houston during Hurricane Rita. What is the role of the private sector is since a terrorist attack is most likely to occur in a commercial center in the middle of a business day? Do we need to think about a better approach that involves sheltering in place, and what kind of planning would be involved in that? Little of that planning currently exists.

And even now we face the conundrum in New Orleans in particular: everyone wants to rebuild rapidly, but there is still a bottleneck. The city of New Orleans needs to restore its tax base to recover. Businesses that contribute to that tax base need a workforce to get up and running again. That workforce can't return to New Orleans until it is safe. And restoring the environment obviously, as we know, will take time and resources.

So here we have a distinguished panel and I will again emphasize that the full biographies for each of them are in your packets, but to my left first we have the Honorable Jim Turner, former congressman and former ranking member of the Homeland – it was the Select Committee at the time on Homeland Security. As Bennie Thompson said, his former district in East Texas had firsthand experience with the traffic jam moving between Houston and Dallas. He is now a partner in the National Security and Public Policy and Legislative Practice at Arnold & Porter, but he represented the second congressional district in Texas from 1997 until 2005.

To Jim's left we have Erik Olson, who is a senior attorney at the Natural Resources Defense Council, which he joined in 1991. He specializes in public health

issues including drinking water, pesticides, toxics, and food safety and sits on NRDC's litigation and advocacy committees.

And finally we have Lynn R. Goldman who is a pediatrician and epidemiologist and professor in the Department of Environmental Health Sciences at the Johns Hopkins University, Bloomberg School of Public Health, where her areas of focus are children's environmental health, public health practice, and chemical and pesticide regulatory policy. And she served as an assistant administrator for toxic substances at the USEPA between 1993 and 1998 and kind of by order we will start with Erik move to Lynn, and finish up with Jim.

So, Erik, you want to kick us off?

ERIK OLSEN: Yes, I will. I thought I would talk a little bit about sort of what it's really on the ground. NRDC has sent teams of scientist in for three rounds of independent testing of what's happening on the ground in New Orleans. And I thought I would give you a picture of what that what it's like. Many of you may have been there, but many of you may not have. This is just a map of the city to begin with to show you what area's we tested. We pretty much tested much of the city of New Orleans.

One of the first things you will notice is that there are massive garbage dumps all over. This is one across the street from the airport, about a block square. There are two of them about a block square a couple of stories high. They are sprinkled across the city as transfer areas with basically waste of all sorts mixed in together just sitting on top of the ground. Much of that waste is sitting there without a clear solution to what's going to be done with it. It's mixed with pesticides, hazardous chemicals from households, just debris of one sort or another. There are estimates it's about a hundred million cubic yards of waste which could fill over a thousand football fields a story high, so just imagine that amount of waste that's sitting there. Much of it is likely to be incinerated or disposed of in a variety of different landfill types.

You'll see across the city and certainly when we were there, armed guards on duty not letting people in to numerous locations, especially hotels and so on. It's anomalous, but you'll be driving down the street – we were there and it was like movie set because nobody was in town except for National Guard troops and a few police in many of the communities. You'll see boats in the middle of the street pushed off to the side. Sometimes cars are bulldozed onto the sides of the street. This boat was taken from looters by the rescue for the California National Guard. They wrote a note to the owner.

And you'll see across the city we saw appliances in front of houses in the areas where the flooding was not as bad. Basically every refrigerator we think in every flooded area was sitting by the curb where people had been allowed to return because everything had spoiled inside. All the Freon inside of the refrigerators and all of the other toxic chemicals inside the 350,000 cars that were destroyed and flooded and are going to have to be disposed of all over the city. This is just typical of some of the housing that we

saw; basically the housing is essentially destroyed even where it hasn't been – hasn't collapsed.

The mold that you see there is pervasive throughout the city. NRDC did a set of mold studies that we released yesterday; you may have seen the news today that found levels of mold indoors up to 600,000 spores per cubic meter when 50,000 spores per cubic meter outdoors are considered not particularly desirable and anything over 1,300 indoors is considered very high. So we are talking about over 1,000 times higher than what is considered generally to be an acceptable level.

In addition, we saw all over the city, transformers. These are electrical transformers, many of them containing PCBs, down on the ground tipped over in many cases. You'll see these signs all over the city where there were dogs or people rescued. This is a church that was severely flooded actually in an area that didn't get more than six or eight feet of water. Some area's got 15 to 20 feet of water. If you look carefully, you'll see the pews tipped over and a gun lying up next to the pew. The whole city is covered in – you'll see this muck on the ground. It's now dried out. Throughout the city there is a thin layer and in some cases up to a foot or more of the muck that's now dried out and every time construction equipment or cars or anything else drives through it raises a large cloud of dust that is then inhaleable.

This is a typical street scene in one community where you see boats tipped over; well, housing destroyed, boats tipped over, telephone lines, and so on. This is another example of this sediment that's all over the city. We did independent sediment testing as well, which we are expecting to get results and release them shortly. Suffice it to say that the EPA testing that's been done so far finds quite high levels of some heavy metals and other toxins. (Polycyclic?) aromatic hydrocarbons and other chemicals in here that are above levels that would require a clean up in a superfund site in many areas. So much of this city exceeds the region six, which is the Dallas EPA regional office, levels that would be considered for a cleanup at a superfund site.

This is an area where somebody just decided to sweep up this dust, this muck and pile it up next to a garbage dumpster. We saw throughout the city people not wearing any masks, no protective gear, nothing – simply cleaning up in dust – clouds of dust at great personal risk. Tent cities. This is just an example of just an emergency life raft in the middle of the city, just sitting there tied up to a phone poll.

This is a richer area. We saw many – obviously, many of the areas that were affected most are low-income but there are a lot of higher-income area that we also hit pretty hard. Industrial areas: many of them, you'll see here, tanks – petroleum tanks tipped over and crumpled. There were over 575 known and reported spills of petroleum and hazardous substances in the city. This use to be called Cancer Alley, the area around New Orleans and up and North from there. Highly industrialized, we know at least eight million gallons of petroleum were spilled just by the 10 largest spills out of the 575, so we think probably more oil was spilled than in the Exxon Valdez.

Many other industrialized areas that we went through. This is an example of a gas station that was still flooded. You'll notice that the gas tanks – the pumps were sheered right off from the gas tanks; obviously large spills of diesel fuel and other contaminants. We saw drums all over the city leaking that had not been cleaned up. In a lot of the industrialized areas the petroleum refineries were badly flooded. Some of them reported no major spills, although the large Murphy Oil location in Chalmette had a large spill about 800,000 gallons of oil. This is just in that community where the community got flooded with oil there is this dried muck that's now 6 inches or so deep in many areas. People are going to either have to return to those areas breathe that while their cleaning up or abandon their communities. And in some areas it's likely they will be abandoned.

This is the muck again. This is a typical strip mall that was destroyed in Saint Bernard's Parish. A lot of the vehicles were just completely destroyed; as I mentioned earlier, 350,000 of them. The force of the water is apparent when you see this. Obviously the housing stock – there is now a discussion that as much as a third of the city will not be inhabitable again. I don't know how valid that estimate is, but based on our independent testing and based on some of the reports certainly a significant portion of the housing in the city is not going to be immediately inhabitable.

Obviously, the clean up job is just staggering. These are some more examples of some of the transformers collapsing. Many of the communities that abut industrialized facilities were the hardest hit. We saw many areas that had industrial chemicals that had reached right into the yards. This is an example of a residential yard that had an industrial chemical spill that just dried on the front yard. Kids are not going to be playing in this area with any safety and there is a significant health risk there.

This is one house where they started to clean up. Basically, the house was gutted. I think it was optimistic to think the house could be reinhabited. This is a typical look inside of a car. You'll see that the car was entirely flooded like 350,000 others. You'll see the muck dried on the floor boards, the engines were flooded these cars may reenter the market in many cases for sale on EBay and so on, so be careful if you are thinking about buying a used car.

In addition, as I mentioned, the mold problem is pretty serious. Our testing, we focused heavily on both outdoor and indoor mold. The mold problem is across the city. We tested 14 sites across the city – we are going back to test more – and the levels were extremely high in most areas of the city. This is one of the only examples of anyone that we saw in the city that actually cleaning up with any protective equipment at all and he had rolled up his sleeves on his TyVec outfit of course which destroyed the purpose of it.

This is just an example of the city – across the city there were water main breaks. Probably this is just one example, but what we saw is water just percolating up to the surface. And what happens when you have a water main break like this is you lose pressure in the system and contaminants can get back into the system and unless you flush the entire system you have a contamination problem in that area. So we are very

concerned about drinking water quality; even if it's pumped out of the treatment plant fine, the water that comes out of the tap is not going to be fine for some time.

You'll see a lot of houses like this that just were picked up off their foundations and set down in some cases a hundred yards and in some cases more than a block away from where they were. This is a Port-a-John on top of a house. You see things like this which shows you that the flooding was about 10 to 15 feet in this area. What our independent testing has focused on primarily are four things, mold, sediment, air and water. The sediment results, as I mentioned earlier, are coming in. We are finding elevated levels of a lot of toxins in the sediments. The decision is going to have to be made as to whether to reinhabit these areas. A good chunk of the city is covered.

The final point I wanted to make about the mold is that right now there is no clear statutory authority for the federal government to step in and do something about it, so there is an open question about what in this kind of cases where you have hundreds of thousands of houses likely severally contaminated with mold as well as other toxins, what do you do about that? In other cases, such as Love Canal and a pesticide contamination case that I think you may have had something to do with responding to – I don't remember – where there was illegal contamination of houses with a pesticide – an agricultural pesticide, EPA stepped in and had to remove people from their homes and I gather paid them to move out of their homes and either refurbish the house or condemn the house. The agency has not stepped up to the plate after the Katrina disaster to take similar actions in any of these locations.

One of the last things you see when you leave this city, at least the route we were leaving, is New Jersey Firefighters had set up a decontamination facility so that your car could be decontaminated as your leaving so you weren't carrying toxins out of the area.

In summary, what I wanted to leave you with is first of all we've got a report that talks about some of these issues, it's in the back, you can grab a copy of it and also a press release about the testing that we released yesterday, but I think the policy issues that I hope we'll have a chance to talk about include how can we better prepare in this type of situation for a major catastrophe like this. We still have hundreds of thousands of people without safe drinking water in Louisiana, Mississippi, and pockets of Alabama. We still have huge swaths of the affected area that are so contaminated that it's probably not safe to reinhabit. And we don't think that New Orleans is the only place where something like this could happen. There are public policy questions about preparation and response to these types of disasters that I hope we'll have a chance to get into, so thank you.

MR. CROWLEY: Erik, thank you.

Lynn?

LYNN GOLDMAN: Yeah, think I can even find my presentation here. Here it is, very good.

MR. CROWLEY: There you go.

MS. GOLDMAN: Okay, so I'm recently off from a couple of meetings at the national academies about this and so what I am going to just quickly do is just go through a few of the public health issues that I think that this situation highlights, and hopefully quickly enough that we have a lot of time to talk about some of the policy implications.

I should start by saying though that my discussion is predicated on the notion of health as defined by the World Health Organization: a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity; meaning that when we think about the public health implications we need to think about mental health, stress, impacts on wellbeing, as well as the diseases.

We've been focused a lot on terrorism in public health and the prevention of terrorism and now we learn that all a terrorist would have to do to completely discombobulate a whole region of our country would have been to blow up a few levees in New Orleans. And I think that it is humbling to realize from this just how fragile and vulnerable our infrastructure is. In the aftermath of Katrina, we have 90,000 miles that were affected; 1,000,000 people who were displaced, an estimated quarter million who were actually evacuated. They were evacuated to 750 evacuation centers in 18 states. And so you can imagine in terms of public health this is a rather large burden and also consider that this a burden that is falling often in areas of the country that do not have a strong public health infrastructure, where the budgets for public health are not well supported, and where there is not a lot of excess capacity in the public health system for being able to deal with this.

The medical care system was not prepared and in the first meeting I attended, the health officer for Louisiana, Dr. Jimmy Guidry, was talking very eloquently about the problem of moving patients and their care providers out of hospitals two or three at a time onto helicopters, onto boats to bring them to medical care facilities where they actually had electricity, water, food, medicines – the things that these people needed. And just the immense suffering that that would involve I think is very easy for you to understand. The shelters that were provided for people – I don't think anybody – people knew that the levees could give way, but I don't think people realized at the Superdome that the roof could blow off in a storm of this sort. And they didn't really think, I don't think completely, about the fact that evacuation routes could be completely cut off.

I know somebody that was trapped in New Orleans who had a car she could of used to get out but her car was in a parking garage on a street that was flooded. She couldn't get the car out of New Orleans. And just another anecdote: one of my students that had just arrived there at the airport the Saturday before was immediately told to get out, but then the airport was closed, there were no rental cars available, and he actually and his wife actually paid a cab driver several hundred dollars to drive them north so they could get out of there. A lot of people don't have resources like that and this is the way a lot of people got out and that was through being rescued by their friends and neighbors, particularly people who were very young and very old were trapped – the disabled.

Something that we hadn't thought very much about in public health that we're going to have to think about and that is that we have a lot of people who use to be in institutions, frankly, who are very severely disabled, have very enormous special needs who we now mainstream into the community who are now at home on ventilators, at home on IV's, on oxygen, receiving dialysis every few days. What do you do with somebody on dialysis when the power is out for weeks and an entire region, as happened in Mississippi, and there was no place to take these people to receive dialysis? That kind of population we need to get in touch with.

And so some immediate impacts: certainly deaths by drowning lots of injuries, infections by endemic pathogens. What do I mean by that? Not exotic things like cholera that were in the media, but the things we live with everyday that suddenly become worse and so, for example, in Houston in what I would call the Astrodome still although it's been changed, the 24,000 people who were there, of those 1,000 were affected when an epidemic of Norovirus, a cruise ship illness, went through that. And that's not the worse thing in the world to have, but 1,000 people in a confined space who have roaring diarrhea is not very easy to manage either. I don't think that they necessarily had bathrooms facilities to handle that kind of thing. And as well as the things that we often see after disasters like carbon monoxide poisoning: people turn on their generators and they don't understand how to protect themselves. Worsening of chronic diseases particularly because of stress, poor diet, poor drinking water, lack of access to medication, lack of shelter, and these things have impacts and especially, again, on the very young and the very old and those who are ill.

And you've heard about the impacts on homes and neighborhoods. There was a lot of misinformation, there really wasn't a "toxic gumbo" that people were wading through and working in. I've looked at the chemical analysis of the water and it basically looks like sea water with some toxic materials in it that came from that local environment for sure. On the other hand there were things that happened like the oil spill that occurred, the Murphy Oil spill that if that were the only thing that would have happened in New Orleans that would have been on the front page every day. We hardly heard anything about it at all in this broader context. There were no large outbreaks of violence in the streets or in the shelters, but that was what we all heard, and there were no outbreaks of exotic infectious diseases. So this misinformation about health is part of what I am going to get back to at the end because I think its part of the problem with our public health system and our public health response.

I think that Erik Olson already gave you a pretty good idea the kind of impact on neighborhoods, but to think about the public health implications that when neighborhoods are impacted in this way that you are breaking down the social infrastructure that supports people and their lives and supports their health. And public health research tells us that when you do that, when you fragment a community that way, you will have serious impacts. Increases in all kinds of diseases, from AIDS, drug abuse, TB among people in those populations; you are breaking down the network, the framework around people that helps to assure their health.

Another concern that I certainly have is with the fact that a lot of these homes would have lead that could be disturbed and create lead hazards where there hadn't been hazards. So in the long term the reconstitution of these neighborhoods not just the physical infrastructure, but the community that supports people and maintenance of diversity in those communities is going to be quite a challenge. There are so many practical challenges to doing that that it's almost overwhelming. And it really doesn't seem that anybody is in charge in terms of health and that's something that I would like to get back to in terms of policy because certainly we are concerned about the financing of it, but there is more to a community than the financing and building of structures. Community is so much more than just a physical environment where people live.

And, as Erik pointed out, the water infrastructure but also the transit infrastructure, how people are connected to jobs and schools, all of those are public health issues in my view. The huge quantities of waste and challenges around that – you've heard about that. The healthcare system itself has been seriously damaged – Charity Hospital being condemned; basically it'll be closed down. Many medical facilities have been taken out; many people in the medical community who will not return, people who have practiced in the rural communities in that region who will not return. The rural communities are likely to be hit even harder than New Orleans because you already have very, very vulnerable infrastructure for health in those communities and on the other hand there could be some innovative approaches to bringing the healthcare services back to those communities.

It would be good in the long term to understand what the impact has been on health and the short – you know, with New York City after 9/11 we certainly found a lot of stress related impacts and I would expect to see that here as well. But it would be challenging because a lot of people in the community have dispersed and it might be hard to find them and the first responders, the volunteers who are there in the immediate aftermath, it might be hard to find them.

One does have to think about the future and this is a map from EPA showing the proportion of the coast in this region that is expected to be submerged underwater with further sea level rise during this century with global warming. And that is something that needs to be factored in. We always plan for the present or even for the last thing that happened. We need to be thinking about the next few decades and what the future is going to look like. One thing that did work is a lot of bioterrorism money that had come forth to public health – the public health system did benefit this response and I heard again and again from people involved in this that they had better tools for tracking disease, better communications equipment, better access information even Blackberries and that helped tremendously. The drills had helped, and that on an individual level and the response network that a lot of that actually had helped.

On the other hand, a lot of things didn't help and this is a longer list but there are just so many other things that you could kind of tick through the list. Everything from people being better prepared at an individual level – they had been taught to take three

days worth of medicine with them if they evacuate. Now we understand maybe that's not enough. And the medical care system itself not having really been prepared to get people out of hospitals and other facilities – the vulnerability of basic infrastructure to support human life.

The lack of situational awareness: a friend of mine at Hopkins was assessing the environment in the shelters and literally he would find shelters within a few miles of each other and the coordinators wouldn't know about basic needs for things like drinking water from one shelter to another. People from industry have told me that they didn't know the information the government had; the government didn't know the information they had. That's actually very critical when it comes to a place like this where there is a lot of chemical industry, a lot of potential for risk. And there were bottlenecks in the systems that were very frustrating. And as one of the people told me, there were too many doctors and not enough social workers, meaning that a lot of the needs had to do with getting people to basic the basics of food and shelter and places where they could get clothing and not that they had exotic medical problems.

Some of the things, certainly the safety of people in the future – how you prevent this is important, how you can rebuild these communities, but in the long run also how we can rebuild and strengthen our public health system, which I believe needs to be reengineered in a number of fundamental ways. We are not prepared to meet these kinds of challenges and after 9/11 we got focused on terrorism and the kind of scenario that happened at the World Trade Center; now we are focused on hurricanes. We need to be thinking about things like avian flu – whether we might have a pandemic flu in the country. It seems like we're always fighting the last war. It seems like we focus too much money on specific hazards like let's go after bioterrorism, let's go after small pox as opposed to approaches that help us with what I call an all-hazards view on kind of the back to the basics of public health.

Thank you.

MR. CROWLEY: Lynn, thank you.

Jim?

JIM TURNER: Thank you, P. J. It is, I think, abundantly clear to all of us that Katrina was a wake up call for the Congress and the country with regard to our preparedness to deal with a major catastrophic event. We, I think, were somewhat lulled to sleep in the four years since 9/11 because of the fact that we have had no terrorist attack on our soil, although it is important to remember that after we passed the fourth anniversary of 9/11, remembering as we all did those terrible events of that day, just a few weeks later we also passed the anniversary of the anthrax attacks on our Senate and House office buildings, and we to date still do not know the source of those attacks.

And I think that the reality is that much of what has driven homeland security spending since 9/11 of 2001 was the facts that as they occurred on the day. And we have

spent the large and bulk of our new dollars on homeland security on aviation security. And I think that as we go forward we are going to have to be much more honest in terms of our assessment of what the real threats and the real vulnerabilities are. It's clearly a major public policy question as to where do we apply our available dollars for homeland security. You heard Governor Gilmore state his opinion that we had to be spending our dollars where the threats were with less emphasis on trying to deal with every vulnerability and I think someone in the audience was asking the question about a chemical event that might occur right here in Washington, D.C. as a result of the fact that trains with chemicals on them come through this city routinely.

The reality is that it's a balance in my judgment between assessment of risk and assessment of vulnerability because risk is largely based on the intelligence that we are able to gather. And as we know all too well, we never get the full picture through the intelligence gathering process. It is but one source of our preparedness for a major catastrophic terrorist attack. And so common sense would tell us that we also have to look at what are the major vulnerabilities because our terrorist enemies clearly are making the same assessments and if we fail to make those assessments, we may very well miss being prepared to try to deal with and prevent and respond adequately to an event in a vulnerable sector.

The Department of Homeland Security was charged by the Congress in the Homeland Security Act with coming up with a list of an assessment of critical infrastructure in this country, a task that to date has not been completed. And in my view it must be completed in order for the Congress to make wise decisions regarding funding for homeland security. We have heard it many times, and I think it's true, that the two truly catastrophic events which we must be prepared for are a nuclear or biological attack by our terrorist enemies. If and when that occurs we have many issues which we have never confronted before. Katrina, as bad as it was, and Rita which followed, which hit my old congressional district in south east Texas with much less publicity, but in many cases with pictures much the same as Erik has displayed from New Orleans, showed us that even in a regional catastrophe of that nature we have much to do.

One of the public policy questions that we do need to address and the governor talked about this a bit and that is who should really be in charge. You heard Governor Gilmore state that he felt it must be the state and the locals, but what if the catastrophe is so large that it completely wipes out the local government of a place like Washington DC or Seattle. Those are the eventualities that we have to be prepared for and if the federal government must step in in a major catastrophic attack, who's in charge at the federal level? Is it the civilians or is it the military? We all understand the down side of the military taking charge in a country that enjoys and wants to maintain all of our freedoms and civil liberties. And yet it's also true that many of the resources, man power, equipment that might be needed in a major catastrophic terrorist attack are found on military bases all across this nation. Admiral Keating, who heads the Northern Command, believes that we need a national plan to employ our military resources. Not, as I heard him say, because he wants the military to be solely in charge; he understands

the danger of that, but he believes that the military resources must be brought to bear if we have a major and catastrophic terrorist attack.

One of the overriding public policy issues that I spent a lot of time talking about when I was the ranking Democrat on the House Homeland Security Committee is, are we investing enough in homeland security? And I think the answer is clearly no. We have increased spending clearly for homeland security since 9/11 of 2001. We spend today about 25 or in the neighborhood of \$25 billion more in this year's federal budget on homeland security than we spent in the year prior to 9/11. If you look at the increases in spending that are currently taking place, in the last two years we've increased spending on Homeland Security just over \$1 billion in the last two years in each year.

Now, \$1 billion is a lot of money where I come from in rural east Texas, and yet all of you that are familiar with the federal budget know that it's not a lot of increase in \$1 trillion federal budget. We all also understand that by way of comparison, we spend \$1 billion in a matter of two or three days in Iraq. So if you're really serious about protecting this country against the next terrorist attack, if you're really serious about trying to prevent it, if you're really serious about being able to respond to it in the event it's successfully and unfortunately carried out, then I think that we've got to be more realistic about what we spend on homeland security. It is the first time in our history where war has been brought to our shores and frankly it is taking us awhile to really comprehend the fact that has occurred to us, but I truly believe that we've got to be willing to make a greater investment.

Now, when we talk about where those investments should be made, we have many other public policy issues that have to be addressed. Chris Cox, who was chairman of the Homeland Security Committee in the House when I was the ranking Democrat, we both carried a bill to try to bring some greater sanity to where we spend our federal homeland security dollars. As you know, the Congress has traditionally passed out money to the states based on formulas, formulas that have absolutely no relationship to the risk and vulnerability that may exist in those states. And so we proposed legislation which we actually passed in the House, that basically moved away from the formula based approach trying to direct the Department of Homeland Security to fund based upon risk and vulnerability. That effort has still not yet been fully successful. And the politics of that, all of you understand, is very difficult because everyone always wants their share of federal dollars.

We might say maybe the states should be more involved, and when we talk about who should be in charge the reality is that our states and local governments don't have the financial resources to meet the needs that exist in the area of homeland security. And in the event of a catastrophic attack against one of our cities, it's not the state or the local government that will have the dollars to be able to deal with the crisis. Only, as all of you know, the federal government can write a hot check. And in the event of a major catastrophic attack or a major event such as Katrina, you saw the Congress within days appropriate \$60 billion as the first installment on trying to deal with that catastrophe. So ultimately, it will fall upon, I think, the federal government to deal with a major

catastrophic event because that's the only place in the short term where the dollars would be available.

So it's a balance; a balance between being sure that the state, the local government, and the federal government work together, coordinate together, but most importantly in advance know what the lines of authority are and who will be in charge in any given circumstance. Ultimately I think the American people expect the president and their federal government to be able to promptly respond in the event of a major nuclear or biological attack against this country. And to say we are going to leave it to the state and locals, to me, does not deal with the realities that would exist on the ground in the event of those kinds of attacks.

This panel's particularly addressing the issue of the healthcare infrastructure, an area that has long been ignored by the Congress, even before we were worried about terrorist attacks. Where are the healthcare facilities that would need to be available in the event of a major and catastrophic terrorist event? Where is the hospital surge capacity? Where are the healthcare workers going to come from? The state of healthcare preparedness is best described by an incident that occurred when I was a member and I was at the coffee shop in my home town and a fellow who worked with the local utility company came up to me and said "Jim, there is a lady that came by the office the other day. She said she, I think, was from the state health department or something like that," he said, "She wanted to know if I would volunteer to administer vaccines in the event of an emergency. I don't know anything vaccines but, sure, I told her I would be glad to help out, so she took my name. What was that all about Jim?"

Well, I frankly didn't know what it was about either but after looking into it, it was a part of the federal effort to encourage the states to be prepared to administer vaccines on a mass basis. But we have absolutely ignored I think, the complexity of the healthcare issue that would be upon us in the event of a major terrorist attack. Who would administer the vaccines? Do you and I know who where we would go get the vaccines or the drugs that might be in order in the event of a biological or a nuclear attack? I don't know where we would go. You don't know where we would go. And nobody else seems to know much about where we would go. So I think we have a lot of work to do in that area.

One of the, I think, most overlooked aspects of healthcare preparedness in the event of a terrorist attack is the fact that all of those investments are also investments that will improve the general healthcare of the American people, and you cannot say that about many areas about homeland security spending. When you buy some equipment that is necessary to help remove debris in the event of a catastrophe, you're probably not going to use it very often except when a catastrophe occurs. If you invest in the healthcare infrastructure of this country, you will be improving the quality of life for all of us even in the event of no terrorist attack.

We need to get much more serious about trying to have a national effort. I called it a few years ago, when I introduced legislation on the subject, a Manhattan project to try

and shorten the development period for new drugs and vaccines. It seems to be apparent that as we move forward and as our terrorist enemies' capabilities increase, the possibility of a genetically engineered drug could very well be on the horizon and if we fail to develop the capability to shorten the timeframe for development of new drugs and vaccines, we will be totally vulnerable in the event of that kind of eventuality. So shortening the timeframe, as they say, from bug to drug should be a national priority.

It's one that frankly I do not believe will be accomplished without significant federal investment because I see absolutely no motivation for the private sector and the private drug companies to make that type of commitment. Even though we have spent and committed billions of dollars to project Bioshield and are contemplating this Bioshield II legislation, I personally am not optimistic that it will be able to accomplish the long-range goals that we need to be able to accomplish to protect our country. So we have a long list – a long grocery list of public policy issues that we need to address.

The federal government has established stockpiles of drugs and vaccines in various undisclosed locations around the country, but it's also clear that in the event those drugs and vaccines are needed, the federal government will deliver them to the door step of our states and from that point on it's the state and local responsibility to be able to distribute them. I am not sure that that capability exists. There have been studies done that show there are only two or three states that have really moved forward aggressively in developing that type of capacity.

I guess another area that comes to my mind when we talk about a major catastrophic attack is the failure that the government has already experienced when we attempted a few years ago to have a national program of vaccinating healthcare workers – the goal was 500,000 healthcare workers for small pox so they would be in a position in the event of a small pox attack to administer that vaccine to others. That program resulted in less than 50,000 healthcare workers being vaccinated and when you looked at the statistics city by city and state by state, you found that there were some places that had a dismal number of vaccinated. I think I recall the city of Chicago had vaccinated, at the time I looked at it, about 280 healthcare workers. So we have yet to fully and aggressively move forward in preparing our healthcare system to deal with a terrorist attack.

So where are we going to get the money? Where are we going to get the resources? Who is going to be in charge – state, federal, local, federal civilian, federal military? All of these issues must be looked at and must be resolved if this country is to be prepared in the event of another attack.

Thank you, P. J.

MR. CROWLEY: Thank you, Jim. Let me pick up first with Erik and Lynn and then Jim as a former mayor and then congressman there is some tension here. It seems like what the professional public health officials are saying is that there is a very significant question about the inhabitability of a disaster site relative – anywhere quickly

after a disaster of this magnitude. Of course, in New York you had issues about asbestos immediately after 9/11, certainly anyone envisions an attack on a key chemical industry structure in New Jersey, for example, you have the prospect of widespread contamination. And yet we saw yesterday that FEMA announced that it's going to cease funding for some of the evacuees.

So on the one hand what you are suggesting seems to me is that the real issues of public health in the aftermath of a disaster suggests we need to take our time. We need to have mechanisms in place where people can be sustained for weeks if not months or potentially years before we are able to reoccupy a site. And then you know very well from a public standpoint there is immediate pressure – “I'm going to rebuild.” “We're going to recover quickly” as one of the manifestations that we weren't defeated. How do you manage this tension? Because it seems like there is a public policy imperative that moves quickly and yet there is a health and environmental challenge that says move slowly.

MR. OLSON: I'll start. We've actually worked a lot with the local groups on that very issue, the community groups and others, and there is that tension. There are people who would like to move in tomorrow. If my house had been flooded, I'd probably want to move back tomorrow and try to clean it up. But on the other hand, you don't want people going back into an environment where there lives and particularly the vulnerable, as Lynn was saying, the very young and the elderly and so on are truly going to be at risk.

Now, that's not the whole city of New Orleans certainly or the whole state of Louisiana in the flooded areas, but there are significant chunks that need to be cleaned up before people are going to be safe in moving back in and particularly before young children or the elderly are going to be safe, so I think the answer is you've got to have a meaningful expedited plan to try to clean up the area's that are contaminated and try and rebuild in a sound way. And people that are living in these communities that can't move in are going to need some plan B – forgive me for using that, but they are going to need some alternative approach so that the FEMA money runs out in a couple of weeks they've got someplace else to go.

MS. GOLDMAN: Yeah, let me answer that by even just broadening that a little bit and going back to the theme that Congressman Turner raised about the federal versus state because I think it is very relevant to that question. And the problem is that from the standpoint of the local community, absolutely, getting back on their feet, rebuilding the economic and tax base is critical. Money is the lifeblood of a community. They can't do anything without that and so they've got to have that and it's a chicken-egg problem because all of the public health infrastructure that I care about, like drinking water and sanitation, that doesn't come from nowhere. It comes – you know, you need dollars to pay for that, so – but yet the local community doesn't necessarily have the assessment tools that it needs and it certainly doesn't have the tools ahead of time.

I mean, the local communities and states do not have the tools to assess the vulnerability of their community to terrorism. They do not have those tools, and in fact I don't think those tools have been created. I mean, this is an area where I have been working. I think that this is a critical need that every mayor, every governor needs to be able to logically work through an assessment to see what their vulnerabilities are. And they certainly – there is not an organized process for reassessing now, post-Katrina say, the housing, the neighborhoods, the structures, and establishing, okay, which areas are safe completely for rehabilitation, which are not and on an organized basis logically how you can rebuild it as quickly as possible.

Now, a lot of things are going to rebuild quickly anyways because that's the nature of people. And I'm with Erik; if it were my house I would be back there trying to rebuild it, but I think that those are things that could be put in place. Two, if you may organize the relationship which needs to be a cooperative relationship between the federal government and the local and state governments in terms of the federal government having those tools and the science and the infrastructure to do that kind of more complex assessment, the local government is really in charge of zoning and those kind of decisions.

And I guess as another example of that I would go back to the small pox vaccine example because I actually think that it's a great example of the federal-local relationship gone awry. My own hospital – not mine, but John Hopkins Hospital – I mean, people at John Hopkins Hospital are certainly not ignorant about the risks of small pox. Almost nobody who was supposed to be vaccinated took that vaccine. And one might want to inspect that carefully and wonder why. I mean, every single vaccine recommendation that has come out from CDC has been applied by Hopkins in terms of vaccinating our patients, our children. Why didn't our doctors and nurses want this small pox vaccine? That could be a whole discussion, but the relationship is critical; not only that the expertise is brought in, but also that it's credible and that there's trust.

And I think there has been a break of the trust. When I heard an official from Mississippi saying, if FEMA comes we ask them to leave our county. A Mississippi official told me that they asked FEMA to leave their county. There's something wrong when you have something like that going on when you have people that desperately need federal help and they are asking FEMA to leave the county so.

REP. TURNER: you know I think this issue of where should the capabilities be – state, federal or local – can be addressed in a logical fashion. Just as the issue of who is going to be in charge depending on the type of event that we are confronted with. As I said, the current spending at the federal level, which is heavily directed towards formula based spending with grants going out to the states and then from the state to the – from the governors out to the local communities. It's spending money blindly.

First of all, there needs to be some serious consideration as to what capabilities need to exist at each level. And just as the Pentagon has a plan for everything – you

know, the Pentagon they are rethinking it, but the policy for years has been we're going to be prepared to be able handle two wars in two different theaters.

Well, you can approach homeland security planning a similar way. You can determine how many incidences that would occur at the same time do you want to be prepared to deal with, and looking at the various types and possibilities nuclear, biological, chemical. What capabilities do you need? Every state, in my judgment, does not need the full range of capabilities to deal with all of those instances.

Our major urban areas, common sense should tell us should be the priorities. And the capabilities need to exist some at the federal level, some at the state level, and some at the local level. So that can be solved if we get to the point where we are willing to take a good hard look at what the vulnerabilities are, match those up against the threats that we face, and have some logical description of what capabilities we are trying to build in the public health sector and the emergency preparedness sector, and any other that might relate to homeland security.

These things aren't impossible to do. But they do take a serious commitment, a serious national commitment. They take strong national leadership, and as all of us know in a democracy we generally get things done when there is a crisis and when there's not a crisis at hand or when there is some other issue on the table that seems to be more pressing oftentimes the secondary areas of concern do not receive the attention they need.

And I think that is where we are and that's why I say maybe Katrina was a wakeup call because of the failures that occurred there and the public once again began to realize that maybe we are not as safe as everybody has been saying that we are based on what's going on in Washington and around the country, so hopefully we can take lessons from Katrina, but hopefully it will spur the congress and the public to demand more of the elected officials in order to prepare us for the eventuality that we all hope never occurs but that we must in prudence be prepared to do deal with.

MR. CROWLEY: I want to ask one more question of the panel and then we will open it up for the audience. Combine two issues here, one your takeaways in terms of the issue of evacuation. Obviously there is an assessment that in New Orleans the call was not made early enough and then obviously for the challenge of getting people who could not get out of harm's way. In the case of Houston, the city probably did most everything right but, Lynn, you were talking about being from Galveston and the road structure there is what it was when you were a little girl a couple of years ago. So you've got that challenge on the one hand versus how do you marshal what may be a private sector role on sheltering in place or at least assembling the some resources that can help sustain a population either in place or outside of the danger area in the event of a future disaster. How do you do that?

MS. GOLDMAN: Can I start on that? I think that it's – just as you need to have tools for doing vulnerability assessment, we need to bring in tools like engineering tools to take really a fundamental look at how we are trying to protect people whether it's from

a terrorist event or another disaster. I think there has been an assumption like in the case of the Houston/Galveston area that plans that were put into place decades ago would still work. And it's not that people didn't get out of the area; they did get out because they had plenty of warning, but in a terrorist attack there wouldn't be any warning and it wouldn't work.

Obviously it wouldn't work and so we've got to be able to shelter people either in place or very close to where they live, and probably not in great big shelters. I mean everything I can tell, the Astrodome, the Superdome; those were terrible places to shelter people. Way to large, you have a lot of social breakdown, a lack of privacy. Their facilities that are not designed for hygiene for a lot of people who need to eat and all of that. You probably need to have shelters that are either the homes can be a shelter or if you are in a flood zone where your home is going to maybe go under water, it can't be your home. It needs to be somewhere else that is above ground, above sea level that isn't going to be flooded. And we don't know how to shelter in place and we are not prepared to do that.

I think that we have a lot of communities that don't necessarily trust authority and I think this is another place where the interplay between federal, state, and local comes into play; that some of our communities – and we have some of them around our own system at Hopkins. The hospital epidemiologist, Dr. Pearl, has told me there are some employee's who every time a vaccine, a flu vaccine or something is suggested, especially some of the minority employees, they have questions about is it experimental. They are very, very sensitive to those kinds of issues and we have to be aware of that as well.

MR. OLSON: I guess three questions come to mind on the evacuation issue that are clear. One is to where, and Lynn raised that issue. But in the case of Katrina for example the city of Baton Rouge doubled in size virtually overnight and the infrastructure was simply not there – public health infrastructure, transportation infrastructure, food, healthcare, et cetera, and it's still not there. So I think as part of the evacuation planning one must look at: to where, for how long, and what is the infrastructure to support the folks that do move, because it is clear that none of that was really evaluated in advance of this disaster, which was completely predictable and in fact predicted.

REP. TURNER: In Houston, which everyone thought Rita would hit Houston and Galveston and it turned out it didn't, the people did have ample warning and the freeways north were clogged, the roads were clogged. The main problem, as you remember, was the lack of gasoline; obviously a problem that should be capable of being remedied.

I was in my hometown in east Texas when Rita hit. We're about 150 or 75 miles north of the coast and all we got was some high winds and some slight damaged trees, but we had evacuees everywhere. I would drive out and take a look at some of the local gas stations and never before had anyone seen 500 cars lined up at a gas station waiting for

gas at my home town of Crocket, but people were there and in many cases they just got in a line and they waited and they left there car there until somebody brought some gas.

Many of the local churches opened their doors and a few days later the Red Cross came in and designated some of them official Red Cross centers and many people stayed for several days in those centers, as well as with relatives and families all throughout that east Texas region. So we clearly learned some lessons about the hazards of evacuation.

One of the problems I see is that because we don't like to talk about bad things, we really haven't educated the American people what they should do in the event of different types of possible terrorist instances or natural disasters. You know, if a terrorist decides to detonate a dirty bomb at the National Archives, everyone in Washington would immediately flee, and yet the reality is that beyond a defined geographic area around that conventional explosion with nuclear material attached everyone else would have no reason to flee. So we've got to do a lot better about educating people.

We talk a lot about quarantines. In the event of a biological attack I think that fear would be so wide spread that it would be very difficult to carry out any kind of quarantine, particularly in our present state of unpreparedness. There has got to be a lot more planning and this is one area where turning it over to the locals may not work because biological agents know no geographic or political boundaries. And so to have the mayor in Arlington or the judge in Arlington County declare a quarantine for that county maybe absolutely meaningless. So there has got to be a lot more planning and preparation and though given these issues than we have given them to date.

MR. CROWLEY: Actually, in one case where there has been some thought to New York had has gone through as far as I remember the issue of quarantine and they came to instant realization that even if they did quarantine in Manhattan, they did not have the ability to sustain that population and so they know one way or the other, whatever happens in Manhattan the population will leave Manhattan and go to Connecticut, New York, New Jersey and they will have to sustain them there.

We have questions from the audience.

Q: In think some way – sorry. My name is Laura Chin. I'm here from (unintelligible) International and my specialty is humanitarian aid and disaster response. And I think in some ways you've all touched on this question that I have, but never really sort of homed in on it. I'd like to hear your thoughts about education and whether – let me say this as a statement because I'd like your opinion, but it is a question, I promise. I see two trends. One is sort of a very, very high level of fear, and the other is a very low level of real assessment. And I wonder if perhaps part of the problem or if you see part of the problem as an inability to differentiate between a high risk and a low risk. Maybe that was too theoretical.

Very specifically, I grew up in the South and I have sat out a number of hurricanes, and I grew up laughing at hurricane warnings because we hear them all the

time. And how do we overcome that both from public health, talking about vaccines, talking about terrorism, and talking about natural disasters? How do we reach that right level of information?

MS. GOLDMAN: One of the things that keeps us probably healthy is there's this thing called denial that we all – it's a defense mechanism. It's a basic mechanism, honestly. Allstate Insurance Company had an ad in *The Washington Post* the day before yesterday about the city of San Francisco, and if the equivalent of the 1906 earthquake hit that today that the costs would be greater than the entire annual budget of the state of California. And I lived in that area for a long time and without worrying a lot about that. And I grew up in Galveston, Texas, and we didn't worry every day during hurricane season about whether another 1900 storm would come either. And so I don't think it – I don't think that we can expect that individuals will run around worried like that all the time. Individuals need to lead their lives.

I think that it is a government responsibility, and right now I think the Department of Homeland Security, to try to put in place some more logical way of doing – and science based is doing threat assessment and very carefully determining what it is that every community needs to do, how every individual needs to be prepared, and then how it is that we can be flexible in the case of an actual attack or an actual pandemic or an actual disaster so the specific things we need to do in that instance will be done and the public will trust us.

I mean, for example, in an epidemic – some of them quarantine would be really important; other epidemics quarantine isn't going to help at all, and so people need to be responsive to the experts and probably the CDC as well as CHS in terms of what should be done. They need to trust them, and I'm not even sure that we have in place a way to communicate that information to people when the time comes.

MR. OLSON: I'll just make an observation from what I saw in New Orleans, which is that there was a lot of blame placed on individuals who didn't supposedly respond as they were told to respond. And I think that there is a tendency of many in government to blame the individuals that were affected by a disaster like this, and frankly in many cases it's completely unfair. Many of those people did exactly what they were being told to do. They were – went to a location.

My son was at Tulane. He had just graduated before this, but they were told that if they couldn't get out of town, they should go to the Superdome and there would be busses that would take them and remove them from New Orleans, and that's what people were told: that it was the location of last resort. So I think that if the plans are in place, if the local, state, and federal governments have contingency plans in place and they practice them and they tell people what to do in the event of an emergency, that most people are going to follow those.

And I think the allegations of undue panic and so on or irrational responses of the public have been overblown in many cases, and that if people are told exactly what to do

and especially if those are practiced and first responders and others are drilling those responses and they appear to be well organized and are well organized, that'll work. So I think there's some degree of public education that's necessary, but ultimately I completely agree with what Lynn said. This has got to be a government responsibility to make the preparations reasonable.

REP. TURNER: Unfortunately, there's a tendency on the part of government and political leaders not to want to talk about bad things. Any president, any member of Congress wants to say – particularly if they're in charge – everything's going great. And to tell it like it is is not what you do if you are wanting favorable public opinion, so it takes a little bit of political courage for any president or any member of Congress to really tell it like it is.

I think that it is fundamental that you all – you should always come down on the side of educating the public. Now, admittedly when you give them the facts, when you talk about things you need to do for preparedness, there's a possibility that people will be afraid. When I was a child, it was in the middle of the height of the Cold War. I remember doing those drills in elementary school where we went out in the hall in the basement of the school and we got down against the wall and we pulled our hands over our head after the siren went off to prepare for a nuclear attack by the Soviet Union.

So those memories do stay with you, but I think that the better side of the argument is to say that we're going to be better off if people understand the issues, if they know what to do in the event of a terrorist incident, and they will act hopefully more responsibly because of the education they've been given.

It's not going to be perfect, but as I said earlier in my remarks, when you and I do not know where we are supposed to go in the event there would be a nuclear or chemical or biological attack to get the necessary medical countermeasures, the drugs, or the vaccines – when we don't know where we would go, then I would say it's pretty clear that we haven't adequately informed the public.

When you don't know – or maybe some of you know – but when you don't know what radio station – emergency station you would dial in the event of a terrorist incident to get the information quickly that you need, then I'd say we're not very well prepared. Those are fundamental issues. Most Americans are completely in the dark. You can make an argument that if you lived out in rural America maybe you don't need to have all that information, but if you live in a major urban area of the city there are some basic things that you need to know and some basic things that you should do in the way of preparedness. And I don't see a whole lot of any of us that are very well prepared.

Sure, if we get the education, maybe we'd be a little more concerned. Truthfully, if we were a little more concerned, we also might see the Congress moving much faster to prepare the country for those types of eventualities.

Q: Thanks. I'm Diane (Saenz?) with Physicians for Social Responsibility. In the wake of Katrina, has there been any reevaluation by private healthcare institutions and state health agencies about triage and how they approach the victims of any attack or natural disaster?

MS. GOLDMAN: People are talking about it. At least so far it doesn't seem that people did a bad job with that in terms of where people were brought to care triaging them quickly. There were some major disconnects, though, with just getting people to care. We were involved – HHS set up a field hospital at a military base down there and we were asked to deploy a couple hundred people to go down and staff it and put that together and had it all – all the logistics set up to vaccinate them on the way and everything. And at the last minute, it was called off because on the other end, the logistics were not in place to bring the patients to the field hospital, so there – those kinds of problems were huge problems, but the – just the basic triaging, I don't think that was really a big issue. And there is this volunteer medical corps that seemed to work pretty well. If anything, as I said before, in some areas there were too many medical personnel.

And you have to understand, in that kind of situation people who are brought in from the outside need to be absolutely essential because they are going to use – they need to be sheltered, they need water, they need food, and they won't use up the resources that the local population needs if they aren't needed to help, so –

MR. CROWLEY: As a last – as a wrap-up for us, Lynn, you talked earlier about, in essence, reengineering public health in the United States. And I think a couple of you recognized that there is no surge capacity in the system that would be responsible for delivering what would be significant medical care in the event of a terrorist attack involving a biological. Then you also asked, well, who's in charge? Okay, a final comment from each of you. In going forward is – given public health is largely a local or state driven – from the bottom up is this an area where the federal governmental needs to really take charge or how would you see that?

MS. GOLDMAN: I see it as a partnership, because when the rubber meets the road, if you're dealing with people who are vulnerable – people – and it's the state and local people who know where they are. And if they're quarantined, if they're sheltered in place, you're going to have to take care of them still and so – and the feds won't know how do that, won't know who they are. But the state and local people won't have the tools that they need. And they – they don't have a lot of the capacity.

I mean, I've personally been very frustrated by some environmental issues that Erik Olson talked about that we didn't really see the feds marshaling an organized effort to address those, and so it needs to be a partnership.

And as the Congressman said, if the local infrastructure or the state infrastructure has been smashed, which it was in New Orleans certainly, you've got to be ready to just fully take over right away, not wait to be asked in and so forth. And that all needs to be worked out ahead of time, though. It's just – you can't do it on the fly.

MR. OLSON: Well, I think I would highlight the need for reinvestment and public health infrastructure particularly on the prevention side. I think Congressman Turner mentioned the fact that you get multiple benefits from investing in public health infrastructure that you may not from any other investments. You will get long-term public health benefits if you invest in that infrastructure and ensure that you have adequate surveillance – disease surveillance. That was something that really hasn't come up, but it's a huge issue. We may not know if we have a biological attack, depending upon what kind of attack it is, until a lot of people have already been affected, because their disease surveillance is not adequate. So I think that investment in the public health infrastructure is absolutely critical and would yield both benefits in the event of an emergency and just as an ongoing investment.

MR. CROWLEY: And just to – given that state and locals have to balance budgets and have competing demands from education, security, law enforcement, where does that investment come from?

MR. OLSON: Well, clearly a lot of it is going to come from the feds. And frankly, the more you invest in prevention, the more your treatment costs are going to come down, so I think it would have long-term financial benefits to the federal government if there were more investment in the prevention side of things, although it's not going to be free. It'll cost money. Maybe we'll have to not free up some of the tax cuts or something.

MS. GOLDMAN: If I could just insert one little fact here. On an annual basis we fail to immunize something like one in four of those who are vulnerable – not the whole population, but those who are defined as being vulnerable. And so how can we do a mass vaccination of everybody in the case of an attack when we can't even reach 25 percent of those who are vulnerable?

MR. CROWLEY: Jim, you get the last word.

REP. TURNER: Well, I've always said that the cost of a catastrophic terrorist attack will always exceed the cost of investing to try to prevent it and respond to it. In the case of natural disasters, obviously we have no control over prevention, only response. But when you look at the cost in dollars and in lives and personal hardship brought about by Katrina or a similar disaster, to me it always would dictate that the country needs to be willing to make the investments to try to prevent it and to deal with it.

Sixty billion dollars was the initial investment to try to deal with Katrina passed by the Congress in the days after. There are more dollars than that that will be invested there. As I said, we increased spending on homeland security in last year's budget by \$1 billion. I think you get the contrast there.

In terms of whose responsibility is it, under our system the federal government is responsible for national security – for national defense. In my judgment, homeland security is national security and there should be no question that the primary responsibility for preparing for and responding to these kinds of catastrophic events should fall upon the federal government. Stated another way, those costs should fall upon all of us, not just those in the locale where the event occurs. I think that's what we all believe as Americans, so the federal government clearly must step up and make the investments necessary.

With regard to who's in charge in any given incident, of course, I think that depends on the type of incident, the size of the incident, and I think we can work out the protocols necessary to iron all of that out successfully. But when you watched the events unfold in New Orleans and you wondered why didn't the military send more helicopters sooner to help get those folks off those roof tops, I think that alone makes the case for a quick federal response because that's where the helicopters are: on those military bases scattered all across the country.

Some would suggest that there were so many of them in Iraq that we didn't have enough to deploy to help in that circumstance, but that issue aside, clearly there are resources, personnel, and equipment available in our military that can be found nowhere else and we would be irresponsible not to ensure their prompt deployment in the event they were needed.

These are all difficult issues. Different political leaders have different motivations. Governors like to protect the state's turf. Local mayors like to protect their turf, but we need to work together to try to iron out these issues in advance so that we won't see the problems that we all witnessed with Hurricane Katrina.

MR. CROWLEY: Please thank the – or please join me in thanking our panel for a terrific discussion on public health and safety.

(Applause.)

If we could all get you to shelter in place, we're going to move into the final phase of our finishing comments here, so just get a quick stretch, and we'll be – we'll start right off with Clark Ervin.

Concluding Remarks and Summary Session

P. J. CROWLEY: Well, let's finish up here. It's been a lengthy and fruitful day. We've had a lot of varied discussion. I think part of what we've done here is certainly in light of Katrina and in the aftermath of 9/11 we have definitely expanded what we consider the true definition of homeland security to include a much broader range of issues than just security.

I think the great challenge here is that while we do have a Department of Homeland Security, we clearly – what we need is a national strategy, of which the Department of Homeland Security is one component, but some of the issues that we’ve wrestled with today in terms of communications, energy, public health, and safety will require the full resources of the federal government across multiple bureaucracies as well as a better cooperation and coordination among federal, state, local, and private sector players.

As a good Catholic, we would call this the benediction (laughter) I think, but we’ve gone through a lot of material and I thought we would invite someone with a unique perspective to come and try to point us in the direction, you know, to finish up.

Everyone’s got their own definition of courage. My definition of courage is one who is willing to buck conventional wisdom and speak truth to power. And certainly our last speaker did that in a truly exceptional and extraordinary way after the formation of the department of homeland security. To some extent people thought the Department of Homeland Security was founded in a very difficult critical environment so people said, okay, we’ve got this department; we’ve now fixed the problem. And it was up to the inspector general of the Department of Homeland Security to say, “Well, you know, some things are working well; some things are working not so well.” We’ve got to do more than just duct tape and plastic sheeting. You know, some of the issues that – some of the calls in terms of orange alerts may or may not have been justified or require a much stronger foundation in terms of process within the department in order to make it work. There is something called the intelligence element of the department, but it’s not necessarily connected to what it’s supposed to be connected; it’s not getting the information that it’s getting because it’s not staffed the way it’s supposed to be staffed.

And the gentleman to my left, you know, did that in a very courageous way and his reward was not to get his job renewed. (Laughter.) But nonetheless, you know, he’s now the director of the homeland security initiative at the Aspen Institute, Clark Kent Ervin.

And, Clark, thank you very much for coming and on behalf of the Center for American Progress, we pay tribute to you for your very courageous and distinguished service to the country. Hopefully, Department of Homeland Security, even today and the future is better off because of that service and you’re willing to challenge conventional wisdom. The floor is yours.

CLARK KENT ERVIN: Thank you very much, P. J., for that introduction and for those very, very nice remarks. As you can hear I’m suffering from a cold and I’m afraid that I’m losing the battle, so I said at the beginning I hope you’d indulge me and understand. Thank you very much for having me here today.

What I thought I'd do for just 15 or 20 minutes or so, so as to leave maximum time for questions, is to give you appropriately enough my summary of where we are with homeland security today.

As you know and as you heard from P. J., I was present at the creation of the Department of Homeland Security. And now I evaluate the performance, the effectiveness of the department on this most vital issue from the outside. And as I travel about the country, I'm often asked today whether I think the country is safe or whether we're better off today than we were four years ago: the old Ronald Reagan question from 1980 but with regard to homeland security. I think that the answer to that question actually is yes, at least, in certain respects. In terms of aviation security, cockpit doors are hardened, as you know, the number of air marshals is significantly higher than it was on September 10th, some pilots are armed. For all the problems with screeners, they're better trained and they're more sensitized to the critical role that they play as the last line of defense before would-be terrorists board airplanes.

But the problem is that whether we're safer today than we were four years ago, in my judgment, isn't the only question, and in the scheme of things, it seems to me it's not the most important question. The key questions are: are we as safe as we can be, are we as safe as we need to be, and are we as safe as we think we are? And I think the answer to all those questions, I'm afraid, is no. Even in the area of aviation security where again we've done more than we've done in anywhere else, understandably enough, we still are dangerously vulnerable.

One of the first things that I did as inspector general of the Department of Homeland Security in the beginning of '03 was to follow up on work that my colleague, the department of transportation's inspector general, had done at the president's request in the months following 9/11 to send a team of undercover investigators, auditors to airports around the country, large and small, to see how easy it would be a few months after the attacks to sneak guns and knives and explosives onto airplanes. Suffice it to say, that is was far easier than it should have been after the attacks.

The very first substantive project we undertook after the office was organized in March or so of '03 was to go back to some of those same airports two years later to see whether there had been a marked improvement in the ability of screeners to detect these deadly weapons since the federalization of the screener workforce, since the transfer of the Transportation Security Administration to this newly created Department of Homeland Security. And much to my shock and dismay, I found that the results were exactly the same down to the percentage point despite the creation of the Department of Homeland Security. And also much to my dismay, I found that the reaction of the department senior managers when I brought these results to their attention was not to share the shock and dismay that I had and the sense of urgency about implementing the recommendations that we made to correct this vulnerability, but instead an insistence that the results were not as bad as they clearly were.

To give you another quick example in the aviation sector. Just yesterday, as you probably know, in my capacity as a CNN analyst I was asked about the report issued yesterday by the GAO, which really isn't news. It follows up on earlier reports that point out that unbeknownst to most airline passengers, about 22 percent of all cargo that is transported in the country, is transported on passenger airplanes, some six billion pounds a year. And these days, nearly everyone, irrespective of his socioeconomic circumstances or his or her profession flies rather regularly, and so the more often one flies, the more likely he or she is to be on an airplane where in the cargo hold there is some cargo, virtually none of that is inspected.

There is a tendency on the part of the Department of Homeland Security still to use words in an "Alice in Wonderland" sense; which is to say, to use words outside their ordinary meaning. The department – TSA stresses that all cargo is screened before it's loaded onto airplanes, but screened does not mean inspected. Instead there are supposed to be random inspections of cargo and if there is particular intelligence indicating that a particular cargo container should be physically inspected, that container ought to be inspected, but most cargo is not inspected.

And with regard to those inspections that are carried out, the inspections are not carried out by the Department of Homeland Security, by TSA, instead they are supposed to be carried out by the air carriers. And after all the whole point of creating TSA was the notion, the widely held conviction, and indeed the manifest fact that the airlines have failed to take security seriously enough before 9/11, and that given the choice they insisted upon maximizing profit and efficiency at the expense of security.

To their great credit, there is a bipartisan trio, Congressmen Markey and Shays and Congresswoman Maloney who, as you may know, some months ago introduced a bill that would phase in over a three-year period 100-percent inspections of air cargo. According to the Coalition of Airline Pilots, the technology exists to do this, and indeed according to them other nations do this as a matter of course; namely, Britain, Israel, and the Netherlands. And so I'm hopeful that this GAO report, other government reports and the legislation that's been introduced and now the public attention that has been called to it will eventually lead to 100-percent screening of air cargo.

Until that happens, we're all dangerously vulnerable. We know that less than 16 ounces of explosive material in the cargo hold of a passenger airliner – Lockerbie – managed to kill 270 people. There was a bomb placed in the cargo hold of a plane – the bomb was linked to the Unabomber – that caused an emergency landing at Dulles airport in 1979. Fortunately, no people died, but these are real world examples of the consequence – the importance of this vulnerability and how easily it could be exploited to deadly effect.

I could go on and on on aviation security, but quickly with regard to port security, we know that only 6 percent of cargo is physically inspected, and of course it's impossible to inspect all of it physically. But the programs the department relies upon with regard to the rest of the cargo are not secure. The Container Security Initiative

whereby the department in – has a relationship with some 41 ports around the world representing more than 70 percent of the cargo that comes into the United States, makes perfect sense in theory.

The notion is we push the border south so that these cargo containers are inspected abroad long before they reach our shores. Indeed, by the time they reach our shores it may well be too late, so the theory is inarguable. It's how the program works in practice that's of concern. According to the GAO, 35 percent of this cargo is not targeted for an inspection, which means that 35 percent of the cargo is not evaluated to see whether there might be something in the cargo that merits inspection. With regard to the cargo that is targeted, 28 percent of that cargo – 28 percent that we, the people who are DHS personnel stationed at these foreign ports are insisting to the foreign ports be inspected – 28 percent of those cargoes container are actually not inspected even though we've asked those foreign ports to do so.

The good news there is those cargo containers, those shipments are supposed to be inspected when it gets to our shores if the foreign ports choose not to do that. But 7 percent of the time the inspections are not done here in the United States either; 5 percent of time according to GEO is because intelligence has been obtained in the interim that gives us sufficient assurance that there's no need for inspections. But 2 percent of the time, we don't know why the inspections were not done here in the United States because no records are kept by the Department of Homeland Security.

In the mass transit sector, in the weeks before the London bombings in July, I was asked to testify before the 9/11 Commission's 9/11 Public Discourse Project and I said at the time that we had one significant wake-up call after 9/11 to the vulnerability of the American mass transit system; namely, the Madrid attack in the spring of 2004 and notwithstanding that wake-up call, we had done to date relatively little with regard to mass transit. And then literally two weeks later, the London bombings occurred. So now that's the second wake-up call that we've had in this country, and indeed you could argue it's the third considering that 9/11 itself should have been the mother of all wake-up calls. And arguably there've been four now given the New York scare if you – about a month or so, six weeks ago or so, which fortunately proved to be a hoax.

But we spend somewhere between \$18 to \$20 billion with regard to aviation security – we have done since 9/11 – and only a small fraction of that with regard to mass transit security – about \$250 million – even though some 33 million people take mass transit everyday to commute to work and play and worship which is 16 times the number of people who fly airplanes every day. And I know as a conservative, that money isn't the answer to every problem but that financial imbalance is a problem in itself.

The good news is it seems to me our government has done exactly the right thing each time such a scare has happened. After each such incident, we have seen in our city that is a mass transit city, New York city, other places like that where mass transit is a factor – a major factor, an increased armed police presence, more bombs-sniffing dogs, a greater use of surveillance cameras, random searches of bags, as you know, in New York,

in New Jersey, and Salt Lake City. But the problem is all of those measures were either ratcheted back rather dramatically or done away with altogether as soon as the scare passed. If I were a terrorist, I would simply wait until those measures were relaxed before launching an attack. And so what needs to happen is all of those measures need to be institutionalized. Now, to do that obviously will cost a lot of money, but I think one of the fundamental problems with the Department of Homeland Security from the beginning has been the lack of money, and I'll return to that theme at the conclusion of my remarks.

Just to say a quick word about border security and then I'll say a quick word about intelligence and then I'll say a quick word about preparedness, then I'll end with my conclusion. With regard to border security, we could go on and on, of course, but I think the department is to be commended for the US-VISIT system. For the first time, we're beginning to have a system by which we can have some sense of who's entering our country legally and who's exiting it. But the program is far from complete and until it's complete, the security vulnerability remains. The vast majority of people who come to our country, for example, by land come from Mexico and Canada and most Mexicans and Canadians are exempted from the US-VISIT system.

The US-VISIT system has been deployed to the 50 largest border crossings in the United States and that's a good thing, and according to the Department of Homeland Security, it will be deployed at all of the land border crossings by the end of the year. I hope that happens. But as it now stands with regard to the 50 largest border crossings, US-VISIT is operational only in secondary; which is to say, the customs inspector has to notice something about the traveler to make him or her think that the traveler should be pulled aside for further scrutiny. Unless that happens, the US-VISIT system at the largest land border crossings is not in place. And furthermore, we know, thanks to the work of my colleague – former colleague – the Department of Justice's inspector general, that the FBI's extensive 47 million fingerprint database of criminals and potential terrorists is not checked by the US-VISIT system, by all the travelers to our country by US-VISIT because the two systems remained incompatible, lo these many years after 9/11.

A word about intelligence. It seems to me that the whole nerve center, the sine qua non of the Department of Homeland Security, and P. J. referred to this issue in his introductory remarks, was the intelligence piece of the department. If someone were to ask me what two things – and you could argue that they are one thing, but I'll distinguish them – what two things was it more than anything else the Department of Homeland Security was set up to do? I would say it was, one, to serve as the central clearinghouse for the federal government as to all information from across the intelligence community – all 15 of our intelligence agencies, not just the CIA but the other 14 ones as well – with regard to threats against the homeland, so that one entity in the federal government would have in place all the dots so that those dots could be connected. We all know now that there were bits and pieces of our government that had these dots that had they been connected could well have prevented 9/11, but there was no central clearinghouse beforehand.

And the second thing I'd say is that there was to be one entity and that entity was to be the information analysis unit, the intelligence piece of the Department of Homeland Security, to consolidate the various – the dozen different terrorist watch lists the different government agencies maintained. For example, the CIA, we now know thanks to the 9/11 Commission, as I'm sure you all know, had watch-listed the names of two of the 19 9/11 hijackers, but that information was not shared with the FBI so that they could have been tracked down before the attacks and it was not shared with the State Department so that those two terrorists mightn't have been issued – shouldn't have been issued their visas to start with. That's the importance of this terrorist watch list integration, and yet within months, literally, of the creation of the Department of Homeland Security, the administration for reasons I don't understand created the Terrorist Threat Integration Center now called the National Counterterrorism Center under the aegis of the CIA, and gave that entity the responsibility for synthesizing terrorist intelligence information concerning the homeland. And created months after the creation of the Department of Homeland Security, something called the TSC, the Terrorist Screening Center, an FBI-led entity and gave that entity the responsibility for consolidating the terrorist watch lists.

So the upshot is, with all due respect to the CIA and the FBI for which I have great regard generally, the two agencies that tried and failed essentially to perform these tasks before 9/11 are still in charge of them, and the Department of Homeland Security is left outside, essentially, with its nose pressed against the glass. To be fair, the Department of Homeland Security has representatives inside both of those entities, but we know from the report of the Silberman-Robb Commission, that even to this day, the CIA and the FBI are the big boys in the intelligence community and they continue to keep hot information from the Department of Homeland Security even though the Department of Homeland Security is now physically located in these two critically important counterintelligence facilities.

So as a bottom-line matter, really the only role the Department of Homeland Security plays now in the intelligence arena is to serve as a funnel for intelligence from the rest of the intelligence community, and to some degree from other intelligence components within itself, to the states and local governments and to the private sector in whose hands about 85 percent of our critical infrastructure lies.

We know from the recent New York hoax that even in this area, the Department of Homeland Security does not do a good job. The Department of Homeland Security is Janus-faced about this responsibility. On the one hand, the department passed on to Mayor Bloomberg and Commissioner Kelly this information about a terrorist cell linked to Iraq that was planning to bomb subway stations in New York, and at the same time they were passing on the information which, I think to their credit, the mayor and the commissioner acted on properly, the department was pooh-poohing the information and criticizing the mayor and the commissioner for acting on it. And yet there were other people, if the e-mails we've seen subsequently reported in the New York daily news are to be believed who took the information seriously enough to warn their friends and family against taking the subway in New York during the course of the period under alert.

Final word is preparedness and, of course, that is the focus of the conference today. My contribution to this issue is to say, like, I'm sure everyone else said today, Katrina shows – if there was any doubt beforehand – that we are just as unprepared it seems to me for a terrorist attack as we would be for a catastrophic natural disaster. After all, as the preceding panelists pointed out, nowadays we can predict natural disasters with near mathematical accuracy and indeed Katrina or a disaster of Katrina's magnitude and proportion was predicted in the years before it actually materialized and yet we were unprepared for it.

As P. J. knows, he thanked me – thanked me, noted – noted me for being the contrarian, I'm a contrarian on the implications on that. A number of people argued, you recall, in the weeks and months after Katrina for taking FEMA out of the Department of Homeland Security on the notion that the reason why FEMA failed was that it was no longer a stand-alone entity as it was previously, and had it been it would have been more nimble, more responsive. My take on it: I have argued that if you had the same leadership in place in FEMA at that time and if you had the same relative lack of money in FEMA which to work, you would have had the same response even if FEMA had been a stand-alone entity. I think we have the tendency in Washington to think that every problem has an organizational solution. Indeed, the Department of Homeland Security was born out of the conviction that all it takes to secure the homeland is a Department of Homeland Security.

Secondly, I don't think that the reason why FEMA failed was because too much money and too much attention was placed on counterterrorism concerns at the expense of garden variety or even extraordinary natural catastrophes. There may be one or two things are unique to a terrorist incident, but largely what you would need to recover from and respond to a terrorist attack of a catastrophic dimension is the same as what you would need to respond to and recover from a natural disaster of catastrophic dimension: large numbers of people who would need to be evacuated to a safe place, needing food and shelter, medical attention; a clear chain of command; interoperable communications; and obviously, we had none of that.

And I was most struck by the president's admission in a news conference before his address to the nation from New Orleans when a reporter asked whether Katrina raised the issue of whether we were prepared for a terrorist attack, the president admitted that he himself was in doubt now as to whether the nation is as prepared for a terrorist attack as it needs to be. And I'm not one of those who thinks that it's necessarily a good news story that we have not had a terrorist incident since 9/11 – a significant terrorist incident since 9/11. Of course, it's good news in the sense that people have not been killed or injured, but what I mean by that is it seems to me that all of the intelligence indicates and their plain words indicate that the terrorists are determined to make the next attack even more spectacular, even more deadly, even more catastrophic in terms of economic damage than the last one was. And that kind of attack takes time to plan, which leads to my conclusion.

And it seems to me that it is possible to close what I have called the vulnerability gap: the gap between terrorists' intentions – their intention to strike this again, their resolve to do so, and their capability to do so. The odds are immensely in their favor and they always will be, to be honest, given the size of this country, how open we are, and how much we quite rightly value our civil rights and civil liberties, on the one hand and then our intention and our resolve and our capability to defend ourselves on the other. There is a vulnerability gap and the gap is in the terrorists' favor.

We can never, to be honest, get that gap to zero. Those who say that we can 100 percent protect ourselves against terrorism are either woefully ignorant or dangerously demagogic or both. But that's not the issue; that's a false choice. The issue is not whether we can be 100 percent secure and if we can't be, we oughtn't to do anything. The issue is: can we be safer than we are and oughtn't we to take the steps that we can take? And I think the answer to that is yes.

And so what do we need to? Three quick things. First of all, I mentioned money and I said I was a conservative. You know that — a Republican. I mentioned that and I emphasized that because it's a contrarian thing to say and hopefully my saying it will make it more credible. The problem with the department from the beginning is that it's been woefully underfunded. Congressman Turner mentioned this beforehand. I was sitting in a hearing earlier this year and a senator whom I shall not name, who is otherwise very sensible at one point said, when a panel of experts were all arguing – a panel of experts that included someone from Heritage on the right and someone from Brookings on the left all arguing for more money, and the senator said, "We're not going to give significantly more money to the Department of Homeland Security because if we're not careful we're going to wind up spending more money on this than we've spent on the national defense – the defense of our nation." As Congressman Turner said, there is no distinction. There shouldn't be – there should be no distinction. The defense of the nation is the defense of the homeland. And I think it's telling that the budget of the Department of Defense is \$400 billion, thereabouts, and that of the Department of Homeland Security is literally a tenth of that.

Secondly, competent and expert leadership with a sense of urgency and mission. I was very please to see Secretary Chertoff say after Katrina that one of the lessons he took away from it was the need to have people in place at FEMA who know what they're doing, but that's true not just at FEMA. It's true in the intelligence unit. It's true for the border and transportation security unit. It's true for the science and technology unit. Everybody at the Department of Homeland Security needs to be an expert in management. It's a huge organizational challenge that would have dwarfed the managerial competence of Jack Welch and Lee Iacocca.

And thirdly and finally, it seems to me that we need to have a culture in Washington generally, certainly, but in particular in the Department of Homeland Security that that doesn't bristle an internal or outside criticism, but welcomes it. Homeland security should be an issue that – if there's one issue that should transcend politics, it should be the security of the homeland. And as the congressman said, there is

a tendency on politicians' part, government managers' part, never to admit mistakes, but the problem is that unless we admit that there are problems, those problems can't be corrected. And it's not a bad news story for a government manager that it's a problem. It's a good news story if that government manager admits that it's a problem and then does whatever he or she can within the limits of his or her talents and resources to correct that problem. And if additional resources are necessary, the Congress should be engaged the administration be engaged to provide those resources. If additional legal authorities are necessary, those authorities should be sought.

That in a nutshell, is my take on where we stand with regard to homeland security today. Thank you very much, P. J., for having me. And if there's time I'd be happy to take some questions.

MR. CROWLEY: Clark, thank you very much. (Applause.) Let me ask one and I'll open it up to our intrepid survivors here who have been with us, in some cases for – for all eight hours.

First of all, I agree with you on the FEMA issue. I think that if you take an (unintelligible) approach and you have a broad based responsibility, there's really nowhere else that FEMA can be. That said, in your experience within the department – you know, two elements in terms of the psychology of the department. The first, how did the issue of security versus response – how did that manifest itself? And – and is it fair to say that the emphasis on security, whether it's in the poor response to Katrina or with that we had the self-defeating approach for a while that we would close our borders to foreign students, when you look at the broader issue of how to win the war on terror, you know, embracing the rest of the world is clearly the better answer than excluding the rest of the world. That's one component.

Secondly, the issue of building a homeland security capability from the bottom up as opposed to driving the process from the top down, that probably manifests itself most significantly in the critical infrastructure that it was the federal government that built this humongous database with relatively little input from the state and local communities, and that's one of the reasons why you really still have the psychological divide between the federal government on the one hand and state and locals who are ambivalent to hostile to this kind of overarching or overdriven federal support. How – how did that manifest itself in the department and how do you get away from those challenges?

MR. ERVIN: On the first one: security versus response. Basically, the issue is did the department in its early years put greater emphasis on security than response, is that the question, essentially?

MR. CROWLEY: Or can the two coexist?

MR. ERVIN: Yeah. I think the answer to that is yes, and indeed I guess the point I was really making is to me, to my mind, there's really no distinction between the two. It seems to me that preparedness and response – these issues are inseparable. And one of

the things on the whole – I applaud the secretary for the results of his second stage review. And I think a number of things that he proposed that have begun to be enacted makes sense like the creation of a chief intelligence officer to try to get his arms around this intelligence issue, I think that's a step in the right direction. I think getting rid of certain layers of bureaucracies is a good thing, but this notion of the coupling – the preparedness piece of FEMA from the response piece, I think makes no sense, frankly. Indeed, I'm not sure how you can do that. There's metaphysical issue to me it seems as to exactly how you can do that. Number three if you could do it, I don't know why you'd want to. I don't what you'd prepare against or what you'd focus on recovering from if the two are not linked. So that's how I'd answer that question.

With regard to critical infrastructure, I do think that one of the reasons why we to this day going on three years after the creation of the Department of Homeland Security and going on five years after 9/11, don't have a list – a good list of the nation's critical infrastructure, which is important for a number of reasons, one of which is we can't protect everything, but we don't really have to. We need to focus on the things that are most critical to the security of the nation is, as you say, the department has done a poor job generally of engaging state and local officials and private sector owners because at the end of the day, of course, they are the closest to this issue.

And so going forward I hope that there will be greater engagement on the department's part with those who know most about what these assets are. I think there's been concern – one of the issues, of course, as you know, is there's been concern on the part of the private sector as to whether the department could be trusted with this information, whether it could keep the information confidential and indeed, whether the department had a plan to use this information in a constructive fashion to help the private sector protect itself. So this is an issue that continues to be a problem and I hope will be worked on months to come.

MR. CROWLEY: By all means, if there are questions.

Q: I'm Jeffie Joseph. Your remarks today paint a picture of a department that is a very marginalized entity in this administration. How would you react to the criticism that the White House having created DHS in 2002 under intense political pressure after months and months of severe resistance to the very concept – having created DHS essentially considered its job done and has subsequently treated the department as a political stepchild not worthy of its time or attention?

MR. ERVIN: Well, I must say that I think that's a fair assessment of where we are. As you say, the administration was at best ambivalent about the notion of a department. It, I think, stemmed in part from a skepticism about bigger government, a skepticism which I generally share. It rose in part, I think, from a skepticism about whether a department in the end would do much good. But that having been said, at the end of the day, the political pressures were such that a department had to be created. The department was created and having created it, having acquiesced in the creation of it, its

having become a reality seems to me that it was incumbent upon the administration fully to support it.

And, as I said, there hasn't been the funding, there hasn't been the attention on recruiting managers for the department who have the expertise they'd need to run, sprawling bureaucracy, 180,000 people, the third largest department the federal government bringing together 22 – not four, you know, the largest reorganization before that was the reorganization of the various military services into the modern say Defense Department. And, after all, those services did more or less the same thing. When you have rather disparate entities within the Department of Homeland Security, all of which were to one degree or another dysfunctional to start with. And it was done so quickly that there wasn't time to correct these dysfunctions, instead they were compounded and allowed to feed on each other. And so I do think, I'm afraid to say, the administration bears a lot of responsibility for the poor performance of the department to date.

Finally, I'd say again and I've said this during the course of my remarks, there is a tendency – and it's not unique to the administration, it's a Washington tendency, it's a bipartisan tendency – to think that the solution to any fundamentally political problem is to create an organization and not to worry so much about whether or not the organization is effective.

In response to the terrific work of the 9/11 Commission, as you know, the intelligence community was radically reorganized. And we have now a whole new superstructure, the Office of the Director of National Intelligence. One could argue – I would argue that the CIA director previously in his capacity as the director of central intelligence was supposed to play and had some of the authorities, although not the budgetary authority, which incidentally the DNI does not have either – had some of the authority to work out differences among the intelligence agencies. Yet we have this new superstructure and so the impetus will be to make it work and not to think that simply because we've created these problems have been solved. So I think those were all the answers to the problem of where we are today.

MR. CROWLEY: A last question? Paula?

Q: Paula Gordon. I am an analyst and educator and have a homeland security website called GordonHomeland.com. How do you go – what would your suggestions be as to steps that could be taken to address the organizational culture issues – problems? Do you think, for instance, that OPM's Eastern and Western Management Development Centers and Federal Executives Institute might be brought into play and help to deal with the education and training needs on the part of higher level federal officials? Would that be a beginning?

MR. ERVIN: I think that's a good thing. I think the more training that our managers, our career managers have the better. I think the more exposure they have to private sector thinking and expertise, the better. One of the notable things about the

response to Katrina, as we all know, is just how much better the private sector was at responding to needs. There is that terrific, I believe, *Fortune* article about how Home Depot and Wal-Mart were very, very prescient. They were fully prepared. They were really the first responders on the grounds in many instances there, and they did it very well. Excuse me. Those in government need to have more interaction with the private sector in this regard.

I think also, frankly, that there was a great opportunity in the Homeland Security Act to make the Department of Homeland Security a model agency. One of the problems is, as those of you who served in government know, is that it's next to impossible to jettison those in our civil service who don't perform. There is a lockstep tendency to promote and to increase compensation solely on the basis of longevity, and not on the basis of performance. The department had an opportunity to improve upon that with regard to political appointees. It seems to me it is part – this is a big country, a country that's full of people who are very, very bright and very capable and I happen to believe there are enough people in both parties who share a given president's political persuasion and at the same time are competent to do their jobs. So White Houses – not a comment to the Republican White House solely, but White Houses can find people who share their convictions and also who can do their jobs. There needs to be a greater emphasis now on finding political appointees to be the top people in these agencies who know what they're doing.

Now, there is focus on that now, fortunately, at the Department of Homeland Security brought about by Katrina. But like everything, Katrina – indeed it's already begun to – will fade from the headlines eventually and eventually practices will revert to (type?) and there'll be less emphasis on that. This culture needs to be institutionalized and the nomination committees, the confirmation committees in the Senate need to have their feet held to the fire and need to be held accountable by outside watchdog groups and the media for doing their jobs to make sure that those who are confirmed for top-level positions and administrations have expertise and experience with regard to the jobs that they're being called upon to perform.

MR. CROWLEY: Well, I think during the course of today, my takeaway is that we have to have a broader definition of homeland security. In fact, as Jim Turner has said, homeland security is national security. I think we're a part of the narrowing of how the administration (unintelligible) approaches homeland security is to invest that concept only in one department of government. And yet when you look at that whatever homeland security as a concept is in terms of preserving a way of life, you realize that there's a lot more to that than just secure borders, as important as secure borders may be. So that as we look at whatever kind of technology exists so that among other benefits to society our cell phones can work everywhere we go, as opposed to having the gaps that each of us experienced whether we're a Verizon subscriber or a T-Mobile subscriber or whatever the case may be, that, you know, as Clyde Prestowitz said in his most recent book, other countries are treating communications as a national security imperative; we treat it as a market-driven capability and perhaps that has to change.

Obviously, in the energy sector we saw that our current trajectory is unsustainable and that the fact that we have – you know, globally consumption is far exceeding what you would reasonably expect in terms of production, something has to change otherwise we become extremely vulnerable to a supply and/or production and/or distribution system disruption whether it comes from natural means, terrorist means or elsewhere, and that the answer is that we have to look at both sides of that equation. Not supply where we can generate it, but also conservation as something that we look at through a security lens not through just a domestic policy lens.

And clearly, as Len Goldman said, we have to reengineer our public health sector not only for the obvious security benefits in the event that we have a pandemic or some other significant medical event in the future, but also because of the broader benefits that it gives to society as a whole.

This has been very valuable to us. I think the Katrina framework tells us clearly that there's a lot of work to do. It will help inform our analysis here at the Center for American Progress in terms of the areas that we should focus on in our future critical infrastructure and homeland security programs. What we'll do for those of you who are – tend to our website on a regular basis, we'll take the discussion today, the transcript will be up in a few days, but we'll take the major issues that have been talked about today, frame it into a fairly robust list of expert comments from our panelists and our speakers so that we have kind of an action agenda for our homeland security program and critical infrastructure security program going forward.

With that – a long and productive day – thank you very much for attending and we hope to see you at future Center for American Progress events in the very near future. We're adjourned.

(Applause.)

(END)