

From Engineering the Future to Surviving the Future Chicago Annual Meeting October 2006

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President**

Introduction

Thank you for coming to Chicago this year for the Annual Conference of the American Society of Civil Engineers! I had the honor and privilege of addressing the Annual Conference last October in Los Angeles as my year as president of this prestigious organization began. The past year has been exciting for me, and I trust, productive and rewarding for ASCE and you as members. This past year has been something that both myself and my wife, Catherine, will remember for the rest of our lives and we both thank you, the members of ASCE, who have made it such a memorable experience!

As I did last year, I would like to start with the maritime quote, since it still seems appropriate as we convene this meeting on the shores of another great body of water, Lake Michigan.

“Our plans miscarry because they have no aim; When one does not know what harbor to head for, no wind is the right wind.”

With this quote in mind, I told you what my plans were for you and your ASCE, and what my goals were for a clear direction for you and ASCE.

Before starting with my prepared remarks, I want to begin today by recognizing some very special people. As you may know, ASCE has agreements of cooperation with 70 civil engineering organizations around the world. I'd like to personally thank all of those who traveled from other countries to attend this conference.

I also wish to thank those ASCE members from Minnesota, who supported my efforts in seeking the presidency of ASCE. In particular, I want to thank my good friend Tom Eggum for all his assistance in getting out the vote.

I want to acknowledge my many colleagues from CDM for their support of ASCE and for making it possible for me to serve this past year as president. In particular, I am grateful to CDM Chairman and CEO Tom Furman, CDM President Dick Fox, and the North Central Regional manager, Carl Johnson, who is based here in Chicago.

And of course, I have saved the very best for last. I want to thank Catherine, my wife of 44 years, for all her encouragement, patience, and sharing. Catherine has developed an interest in civil engineering, probably not by choice, and has always supported my work with ASCE. Catherine, I want to thank you publicly for all your support over the years.

When I started this year in Los Angeles, our conference theme was: “Next Generation Infrastructure: Projects that Create the Future.” This year’s conference theme is “Surviving the Future.”

Although the theme is short, the message it conveys is that the role that we have as civil engineers have permitted the public to know that our engineering projects will assist in mitigating natural and man made disasters that challenge the infrastructure systems we create.

With last year’s and this year’s conference themes in mind, I will revisit some of the challenges and opportunities that I saw at the start of this past year and report what progress we have made as we create the future. These challenges and opportunities compromised the four planks of my past year as your president. They were:

- No. 1 - Natural Disasters and Terrorism
- No. 2 - Infrastructure
- No. 3 - Ethics and Integrity
- No. 4 - ASCE's Future

Plank 1 – Natural Disasters and Terrorism

The devastation of the city of New Orleans still provides a stark reminder of how our infrastructure—water, sewer, electricity, transportation, and communication—forms the essential foundation of our economy. We saw the chaos that resulted when the public's basic needs were not met, and the hardship of that strained economy as the mayor was forced to lay off 3,000 city employees. In the wake of such devastation, I reported last year that engineers must undertake the challenges of being emergency responders—ready to quickly follow the “first responders” who are engaged in rescue operations. We must become the “second responders,” providing rapid emergency repairs and service restoration. We must help to shape the rebuilding efforts to provide for safe and sustainable infrastructure. This past year many of our members became “first responders” through certification with FEMA, while many others became “second responders” through training with the Red Cross as was coordinated between ASCE and the Red Cross at several of our zonal workshops this past year.

The threats of natural and man-made disasters were related to my second plank, our country's infrastructure needs. Unfortunately, it is not only natural and man made disasters that are threatening our country's infrastructure.

Plank 2 – Infrastructure Needs

Moving our nation forward first requires a sound foundation. Although the ASCE 2005 Report Card for America's Infrastructure told an unsettling story, I believe it, and those that have been prepared and continue to be prepared by the ASCE Sections and Branches, also contribute to this foundation. The overall national grade was a D, barely passing in my view. And the U.S. infrastructure needs were estimated to be \$1.6 trillion from 2005 to 2010. However, funding levels for infrastructure are continuing to fall short and as result creating a crisis. Our aging infrastructure is deteriorating faster than we are able to restore it. It is our duty to raise our voices and make our elected officials keenly aware of the crisis. Sound infrastructure is the basis for a sound economy.

Also related to the issue of infrastructure are cities of the future. People—young and old—are leaving the suburbs and moving back downtown. These new urban dwellers demand reliable utility services, a high quality of life, and a restored urban environment.

Ironically, these areas also have the most severely aging infrastructure. However, our central cities are experiencing, and I observed this as I traveled to many of our nation's cities this past year, a tremendous amount of residential and commercial development. Although this growth is visible on the surface, it is primarily the invisible infrastructure that we must repair and maintain that permits this new development to be built on a strong infrastructure foundation.

That alone is a great challenge, but fixing water, sewer, and transportation systems is not enough. To build an urban renaissance, we must take a more holistic view of the urban environment. We must create fresh, proactive, and stakeholder-based approaches to urban revitalization—improving the quality of life, enhancing the urban environment, and creating economic opportunities for every citizen. This requires an integrated approach that brings together multi-disciplinary teams to create multi-purpose projects that preserve urban waterways, provide amenities, and recharge the economy. At my firm, CDM, we have an initiative called “Cities of the Future” that addresses the needs of urban revitalization.

What is the role of the civil engineer in this urban renaissance? We must become facilitators of integration and stakeholder involvement. We must be catalysts for greater “integration” of utility functions, with water and wastewater departments working together to implement new urban management programs that provide reliable services, fuel economic development, and improve the quality of city life.

And all of this must be done with highest degree of ethics and integrity. And so my third plank was ethics and integrity.

Plank 3 - Ethics and Integrity

Today, perhaps more than ever before, engineers must be the vanguard of ethics and integrity in global environmental and infrastructure projects. ENR estimated that world construction spending in 2004 was \$3.9 trillion. Sadly however, it is estimated that 10% of this money, that's \$390 billion, is lost to bribery, fraud and corruption, often on projects in developing countries. As engineers, we must accept the personal responsibility to help combat fraud, bribery and corruption in the engineering and construction industry. We must refuse to condone or ignore corruption.

We must report infractions when we see them.

And we must urge our professional engineering societies to adopt and enforce guidelines for ethical professional practice. This past year ASCE did revise and strengthen our Code of Ethics as it relates to our responsibilities regarding bribery, corruption and fraud. To quote Thomas Camp, a founder of CDM, "Engineers in the public service have an even greater obligation ... to determine that the projects with which they are associated ... are in the best public interest because they have no other client or employer than the public itself. They must place the public interest and welfare above their own or their client's private gains."

With the challenges I've just discussed in mind, let's look at my fourth plank for this past year.

Plank 4 - ASCE's Agenda for the Future

My goal was to build on the best of the past ... for a better future. We had a great deal of work underway and I believe we have built upon it to continue to strengthen ASCE. Let me call your attention to just a few.

No. 1 - ASCE continued its thriving government relations initiative. We continued to work with legislative coalitions to advance knowledge about infrastructure needs. We held the first *Infrastructure Solutions Summit: Moving From Awareness to Action* in Washington, DC to address funding challenges and potential solutions. ASCE also provided testimony in person eight times and 10 statements for the record during the year at the Federal level.

No. 2 - I wanted to continue our work on the "Body of Knowledge", aka Policy 465. This policy prepares engineers for the broader roles of integrator and facilitator that I mentioned today. It recognizes that there is a "body of knowledge" necessary to effectively practice engineering that goes beyond the traditional bachelor's degree and technical competence. It expands the depth and breadth of required knowledge to include the ability to function on multidisciplinary teams, communicate effectively, know contemporary issues and understand their impact on engineering solutions and understand business and public policy fundamentals. I am pleased to report that at last month's Annual Meeting of the National Council of Examiners for Engineering and Surveying (NCEES) the proposed changes to implement ASCE Policy 465 were passed to become effective January 1, 2015.

No. 3 - I wanted to raise the awareness of the need for implementing sustainable infrastructure through our program on the Practices, Education, and Research for Sustainable Infrastructure, aka PERSI. This effort moved forward during the past year with participants from some sixteen organizations working together toward a common goal.

No. 4 - I wanted to continue to advance Bill Henry's Global Principles of Professional Conduct by raising awareness of the need to reduce bribery, corruption and fraud in worldwide engineering and construction projects. This effort has continued with many additional signatories to the Engineers Charter and the task committee becoming part of the Committee on Professional Practice (CPP).

No. 5 - Finally, I wanted to advance a new strategic plan for ASCE to define a path for the next five years and provide guidance for the next 20 years and beyond. My vision was to adopt an ongoing strategy-making process that helps our organization both adapt to change and become change agents. My goal was to have this new plan and approach in place by January 2007 and we are on track to accomplish this.

Conclusion

In conclusion, I've highlighted what I saw as challenges for my year as the ASCE President and provided you with the accomplishments during the year toward each. I believe there are challenges and roles we as civil engineers will continue to meet and resolve in our changing world. These challenges will certainly continue in the areas of my four planks: Natural Disasters and Terrorism; Infrastructure; Ethics and Integrity; and ASCE's Future.

I've appreciated the opportunity to serve as the president of the American Society of Civil Engineers this past year working with you to advance our profession, reinforce our duty to serve the public and to serve them ethically and continue our important mission of providing civil engineering solutions for the problems that confront our nation and our world.

I believe we had a clearly defined aim this past year, and that we achieved success in accomplishing that aim. I trust that going forward future ASCE presidents will continue us on our essential journey of success for you, the members of ASCE, and the public that we all serve in this the greatest profession on earth, that of civil engineering!

Thank you for a wonderful year!