CONSTRUCTION INDUSTRY INSTITUTE 2004 ANNUAL REPORT

## MISSION STATEMENT

The mission of CII is to add value for members by enhancing the business effectiveness and sustainability of the capital facility life cycle through CII research, related initiatives, and industry alliances. Increase the participation level within CII to expand the global competitive advantage realized through active involvement and the effective use of CII research findings, including CII Best Practices.



#### CHAIRMAN'S REMARKS

Throughout my career, I've served in numerous capacities with various industry groups. Serving as chairman of CII in 2004 surpasses all of those previous experiences. CII, its members, and the staff are totally focused on the mission at hand: to improve the industry and to enhance the value of being a CII member. I consider my year as chairman richly rewarding and a distinct privilege.

One of the primary goals we set in 2004 was to maintain and build upon the momentum that CII has been experiencing over the past several years. With the resounding success of our Annual Conference in Vancouver, British Columbia, we kept the momentum rolling and laid important groundwork for yet another focus area for CII: sustainability. Not only did we choose sustainability as the theme for our showcase conference, but we elevated sustainability into our mission statement and our new Strategic Plan.

Another goal was to increase and diversify our membership, and we welcomed several new members. I'm pleased that we now can count Dresser-Rand, Gilbane, Grinaker-LTA, Kraft Foods, J. Ray McDermott, Marathon Oil, Mustang Engineering, Sunoco, and Yates Construction as new members who will help us meet upcoming challenges.

We made tremendous progress in several other areas. Our research process was revamped and we added quality assurance/quality control to the CII research calendar, which will now be aligned with the traditional academic calendar. We have a new information management system coming online in the near future that will change our website and how we organize and sell our products. Our benchmarking program expanded as did our implementation and education efforts. We also had positive responses to both our Web-based and technology assisted learning efforts. The membership agreed to explore the idea of creating an executive-level university course to provide industry leaders with the latest knowledge on best practices. And at year's end, we published our new Strategic Plan. All of these items point to increased momentum within CII.

The Annual Report provides details on our 2004 activities. I hope you enjoy looking back on a year where momentum continued and goals were accomplished through dedicated efforts. My thanks go out to the Executive Committee, all the other committees, the CII staff, and especially to the research teams and principal investigators from our academic institutions who worked so hard to discover new ideas to help us improve the industry. Thanks to each of you for allowing me the opportunity to serve as your chairman in a unique and special time.

Les Sturgeon
Abbott Laboratories
CII Chairman 2004



#### DIRECTOR'S REMARKS

Numerous challenges sprang up on the engineering and construction landscape in 2004. Some of these challenges are old (but still bothersome), some seem almost déjà vu, and some will require us to take new approaches. Unless we are to be left behind as a force in the global economy, we will have to meet these challenges by forcing ourselves to change.

The challenges that have been around forever, of course, have to do with the very essence of the constructed project: time, materials, and labor. Since the building of Westminster Abbey during the reign of King Henry III, construction has been viewed as a way to a better quality of life. And our industry continues to evolve with better tools, better materials, and better skills. But attracting a young and energetic work force is critical. Our research shows we must do more to present engineering and construction as a place where our young leaders can be mentored and have career paths in an interesting and stimulating environment.

Inflation has taken on a déjà vu effect for all of us. CII was established as the result of not only the labor strife that beset the industry in the late 1970s, but also by spiraling, uncontrollable inflation. Industry leaders investigating those problems foresaw the need for research and the application of research findings in order for the industry to improve, to be competitive, and to whip inflation. Now, different forces are coming together to create the inflation challenge: the declining dollar, China and its rapid development, the rising price of oil and natural gas, and increasing steel prices.

Finally, we come to the challenge of finding new ways to do what construction is supposed to do: increase our quality of life. We've entered the 21st Century and the Information Age and we must incorporate knowledge and share information in every facet of our work. Again, our research shows we need to improve by an order of magnitude in using technology, in managing knowledge, and in communicating.

Given the spirit of engineers and constructors around the world who have taken on the immense task of building our infrastructure, our buildings, and our way of life, I'm convinced that we'll meet all of the challenges and continue to improve as individuals, as industry participants, and, collectively as an industry, we will continue to be a major force in the world in which we live.

The 2004 Annual Report looks at our progress during the year. Take some time to reflect on our industry and its role in the global community, and then begin to plan for the future. Together, we can make a difference.

Hans VanWinkle
Director



## CII MEMBER ORGANIZATIONS 2004

## **Owners**

3M

Abbott Laboratories

Air Products and Chemicals, Inc.

Amgen Inc.

Anheuser-Busch Companies, Inc.

Aramco Services Company

BP America, Inc.

CITGO Petroleum Corporation

Cargill, Inc. Celanese

ChevronTexaco Corporation

Colectric Partners, Inc.

ConocoPhillips

Dofasco, Inc.

The Dow Chemical Company

DuPont

Eastman Chemical Company

ExxonMobil Corporation

General Motors Corporation

GlaxoSmithKline

Intel Corporation

International Paper

Kraft Foods

Eli Lilly and Company

Marathon Oil Company

NOVA Chemicals Corporation

National Aeronautics & Space Administration

Naval Facilities Engineering Command

Ontario Power Generation

**PSEG Power** 

Petrobras

Pfizer, Inc.

Praxair, Inc.

The Procter & Gamble Company

Rohm and Haas Company

Shell Oil Company

Smithsonian Institution

Solutia Inc.

Southern Company

Sunoco, Inc.

Tennessee Valley Authority

U.S. Army Corps of Engineers

U.S. Department of Commerce/NIST/

Building and Fire Research Laboratory

U.S. Department of Energy

U.S. Department of Health and Human Services

U.S. Department of State

U.S. General Services Administration

U.S. Stee

Weyerhaeuser Company

### CII MEMBER ORGANIZATIONS 2004

## Contractors / Suppliers

ABB Lummus Global Inc.

ALSTOM Power Inc.

AMEC, Inc.

AZCO INC.

Aker Kværner

BE&K, Inc.

BMW Constructors Inc.

Baker Concrete Construction Inc.

Bechtel Group, Inc.

Black & Veatch

Bovis Lend Lease, Inc.

Burns & McDonnell

**Butler Manufacturing Company** 

CB&I

CCC Group, Inc.

CDI Engineering Solutions

CH2M HILL/IDC/Lockwood Greene

CSA Group, Inc.

Day & Zimmermann International, Inc.

Dick Corporation

**Dresser-Rand** Corporation

**Emerson Process Management** 

Fluor Corporation

Foster Wheeler USA Corporation

Fru-Con Construction Corporation

Gilbane Building Company

Graycor

Grinaker-LTA

Hatch

Hilti Corporation

Honeywell International

Jacobs

Johnson Controls, Inc.

J. A. Jones, Inc.

Kellogg Brown & Root

Kiewit Construction Group, Inc.

J. Ray McDermott, Inc.

M. A. Mortenson Company

Mustang Engineering, L.P.

Parsons E&C

Perot Systems Corporation

Primavera Systems, Inc.

S&B Engineers and Constructors Ltd.

The Shaw Group Inc.

Technip USA Corporation

Turner Construction Company

Victaulic Company of America

Walbridge Aldinger Company

Washington Group International, Inc.

Williams Group International, Inc.

Yates Construction

**Zachry Construction Corporation** 

Zurich

#### RESEARCH

CII research is a key activity for the Institute, its members, and for the engineering and construction industry at large. Teams composed of experienced industry practitioners guide data-gathering activities and analyses by top academics to provide best practices that can improve project planning and execution.

In 2004 the CII Research Committee conducted five workshops to explore topics for future investigation. Taking advantage of the CII-Construction Users Roundtable (CURT) alliance, a specific workshop for CURT members in Atlanta focused on work force issues. Another workshop in Austin discussed health-safety-environmental issues with attendees at the Construction Project Improvement Conference. A Denver-based group focused its workshop on the lawyerization of the industry. General topic workshops were conducted in Houston and London.

Three research teams reported their findings at the Annual Conference: Attract, Recruit, and Retain Construction Leaders, Lean Principles in Construction, and Radical Reduction in Project Cycle Time. Also at the conference, CII recognized Dr. Edd Gibson, UT Austin, as the Outstanding Researcher for 2004 for his work on international project risk assessment.

CII adjusted its research calendar in 2004 to more closely align with the traditional academic calendar. With this change, CII initiated nine research projects, bringing 14 active research teams online at year's end. The current research teams and the respective universities investigating the topics are:

Achieving Learning Organizations in the EPC Industry (University of Colorado-Boulder)

Optimizing the Project Team's Contribution to Business Results (Clemson University)

Do It Right the First Time (North Dakota State University)

Owners' Role in Project Success (Polytechnic University-New York)

Commodity vs. Value-Added Contractor Services (Arizona State University and

San Diego State University)

Contracting to Appropriately Allocate Risk (University of Wisconsin-Madison)

Effective Use of the Global Engineering Work Force (Pennsylvania State University)

Support for Pre-Project Planning (The University of Texas at Austin)

Trade-off between Cost and Schedule (Vanderbilt University and Purdue University)

Work Force View of Construction Productivity (University of Kentucky)

Target Safety: Preventing Specific Injuries (University of Florida)

Leading Indicators to Project Outcomes (Texas A&M University)

*Information Flow to Support Pre-Project Planning* (Clemson University)

Best Practices for Design in Fast-Track Projects (University of Cincinnati)

CII member Zurich provided \$24,000 in funding the Target Safety research project. A like amount will be provided by the company in 2005.

Total funds expended on research in 2004 totaled \$922,371. CII commitments for research in 2005 and 2006 total \$622,235 and \$376,522, respectively.

#### IMPLEMENTATION

The Implementation Strategy Committee (ISC) focuses on promoting the use of CII research products with emphasis on CII Best Practices and Proposed Best Practices.

During 2004 the committee worked hard to integrate implementation resources to facilitate implementation within CII member organizations. The Implementation Champion Program is strong and growing, with over 70 percent of CII members having designated an Implementation Champion. The ISC facilitates Webbased e-room collaboration for these individuals. It also provides two-day workshops twice per year about new CII products and about tools and skills that can improve performance. The workshops also provide opportunities for networking with peers.

The ISC published Research Summary 166-1, "Measuring Organizational Implementation Status: CII Knowledge Implementation Index (CKII)" in 2004. This publication explains the development of the index as a tool to evaluate the organizational implementation process for CII Best Practices. It also examines the relationship between organizational implementation and project success. It revealed a wide range of implementation within CII member organizations. The CKII identifies themes and steps to improve implementation of CII Best Practices and organizational performance.

The ISC plans to sponsor research on implementation techniques. In addition to the CKII, the techniques described in IR 166-2 "Implementation Model + Knowledge Structure Guide" and IR 166-3 "CII Best Practices Guide: Improving Project Performance" have been in use for some time. Now the focus will be on incorporating into CII practices some cutting-edge implementation techniques that are effective in other industries. These techniques and ones identified by new research may well improve implementation success rates within CII member organizations.

A new ISC initiative is the Implementation Toolbox Program, which targets Implementation Champions and others interested in implementing CII products and Best Practices. The goal is to open up CII resources to member organizations by creating a user-friendly Web-based portal. The program will provide tools and implementation case studies to guide the work of implementation enthusiasts.

#### EDUCATION

The Education Committee provides innovative, flexible educational resources to enable CII members to use research findings to meet individual needs. Active evaluation and trending of education product performance ensures that CII continues to provide high educational value to its member organizations.

The committee, focused on improving the business effectiveness of CII member organization employees, closely tracks the effects of an aging work force. It works on educational products and initiatives to develop younger personnel for middle management roles and middle management for executive roles. In addition, the challenges of globalization, the need for distance learning vehicles, and the increased demand by regulatory agencies for continuing education of professionals are factored into the committee's activities.

The Education Committee currently offers 21 education modules built around CII Best Practices. These address all phases of a capital project. Arizona State University, Clemson University, and UT Austin offer courses based on the modules. These courses also can be offered as on-site training or may be purchased as in-house training resources. Consult the CII website for course schedules, module descriptions, and purchase prices.

During 2004 the education module "Prefabrication, Preassembly, Modularization, Offsite Fabrication" was completed. Module work continued on "Making Zero Incidents A Reality," "International Project Risk Assessment," and "Value Management."

Technology Assisted Learning (TAL) at CII, via the Internet, expands the modes of delivery of CII educational material, with special focus on CII Best Practices. In 2004 CII launched its new TAL program and allowed free access to over 600 CII member organization employees. This represents a four-fold increase in access from previous years.

Members and the general public can access the CII curriculum and benefit from fully interactive and professionally developed courses based on CII research findings. An advanced learning management system features assignment of courses and tracking of course participants, pre-testing and course bypass capabilities, self-grading on learning topics, final testing, and various course performance reports. While the courses can be accessed free of charge during certain windows, access fees for both CII members and the general public have been established and will be subject to change from time to time.

The current TAL curriculum consists of seven hours of instruction on Development and Alignment of Project Objectives, Constructability, Construction Safety, and Scope Control and Change Management. Full course descriptions and pricing are available at the CII website. Topics under development include Pre-Project Planning, Developing, Implementing, and Managing A Partnering Relationship, Planning for Start-Up, Building the Project Team, Design for Maintainability, Materials Management, and other topics.

#### BENCHMARKING & METRICS

Benchmarking & Metrics successfully completed a number of major projects in 2004. First, a book was prepared on major findings by Benchmarking in its study on implementing project security practices. That study was funded by the National Institute of Standards and Technology. This new guide will offer a framework for integrating security into the project delivery process in the context of likely threats to facilities and the consequences of security breaches. The book will contain a Security Rating Index tool to help users assess their level of security best practices implementation.

A successful Benchmarking User Forum was conducted in September following the Construction Project Improvement Conference in Austin. The forum was viewed by attendees as a planning tool to assist them in implementation of benchmarking. Ideas and suggestions from that forum will factor into benchmarking upgrades in the future.

The 2004 Safety Report was published. This publication summarizes Benchmarking's safety survey and covers over one billion total work-hours from 392 projects submitted by CII member organizations. It also includes data from the 2002 OSHA recordkeeping rule change and compares domestic and international projects.

At the Annual Conference, Benchmarking presented its Outstanding User Awards to GlaxoSmithKline and to Aker Kværner. GSK helped launch Benchmarking's pharmaceutical study as well as the small projects initiative. Aker Kværner is one of the most active CII member organizations in the benchmarking area, having joined the program at its inception. Aker Kværner is the only CII member to submit data on all seven versions of the benchmarking questionnaire.

#### KNOWLEDGE MANAGEMENT

The Knowledge Management Committee manages and facilitates access to the CII body of knowledge and seeks to identify Best Practices from within CII research products as well as from other sources.

In 2004, the committee continued its review of CII research publications and made specific recommendations to the Board of Advisors. A number of CII publications are currently undergoing review and revision, including Proposed Best Practice Early Estimating and Best Practices Constructability, Design Effectiveness, Pre-Project Planning, Alignment, Planning for Start-Up, and Materials Management.

Also in 2004, CIIProductFeedback@austin.utexas.edu was established on the CII website. The committee monitors the feedback and urges members to provide imput so that CII publications can be responsive to member needs.

To support improved project performance, the Knowledge Management Committee conducted surveys to identify use of Proposed Best Practices as a first step in evaluating them for CII Best Practice designation. The survey pointed out a need to coordinate with the Implementation Strategy Committee to increase CII member awareness of the potential benefits of these Proposed Best Practices. The committee will continue to assess Proposed Best Practice performance and to coordinate its efforts with other committees.

To insure quality and consistency in its activities, the Knowledge Management Committee has formalized a number of guidelines to manage its work. These include CII Publication Review and Revision Process; Obtaining Best Practice Designation on the Basis of Benchmarking and Metrics Data; Obtaining Best Practice Designation on the Basis of Rigorous Post-Research Validation; and Obtaining Best Practice Designation on the Basis of Member Acceptance, Use, and Validation (Soft Validation Method.) These guidelines will provide consistency as the committee continues to manage the CII body of knowledge.

## BREAKTHROUGH

In 2004, the Breakthrough Strategy Committee asked: In what ways can we accelerate the industry's progress so that 100x cycles of learning are achieved every two years? The committee reviewed 73 suggestions and, through a process of elimination, selected five top "needs" areas: (1) real-time access for all project data; (2) shared learning; (3) the industry's public image; (4) intelligent devices; and (5) national strategic goals for the construction industry.

The committee produced two white papers during the year as well. The first deals with a national strategic agenda for the construction industry and the need to address the interests of all construction participants: government, people, and businesses. The second focuses on the image of the industry and provides numerous ideas that take aim at several viable topics: sustainability, attracting young leaders, building upon the professionalism of craft and technical personnel, and creating a different theme to carry forward the desired new industry image.

#### GLOBALIZATION

In February the Globalization Challenge for Engineer-Procure-Construct Forum, a symposium sponsored by the Construction Industry Institute Globalization Committee, the Construction Users Roundtable, and FIATECH, brought over 75 experienced engineers, project managers, and industry practitioners to Houston to discuss the problems of how outsourcing and its offshoots are impacting the construction industry and what can be done to prepare for a very different industry in the future. Wayne Burkan, a futurist, facilitator, and author of *Wide-Angle Vision*, guided the overall effort for the day. During workshops, groups came to similar conclusions, namely that the least improved areas of the industry include:

- 1. Value recognition: owners focus on cost, while contractors fight the commodity vs. value-added debate.
- 2. Integration: applies to integration of teams and systems.
- 3. Productivity: construction has not embraced technology compared to other industries.
- 4. Employees: training is lacking, industry image is not attracting young talent, and assigning the "right" employees to projects continues to be a daunting task.
- 5. Work processes: the "not invented here" syndrome continues.

Industry leaders at the meeting emphasized leadership and vision as key qualities that would enable the construction industry to meet the globalization challenge. The industry must have a vision of the future, forum participants agreed, and it needs to be far-sighted and serve as an alternative pathway.

## ANNUAL CONFERENCE

Sustainability — development or growth that provides for today's needs without compromising the ability of future generations to provide for their own needs. What impact does it have on engineering and construction? How do we broaden our understanding of sustainability and increase the value of our projects and facilities? To answer these questions the CII Annual Conference was held in Vancouver, British Columbia, Canada. The theme was "Building A Strong, Sustainable Future." Sustainability addresses the triple bottom line: economic success, social well-being, and environmental protection. CII changed its mission statement in 2004 to involve sustainability. At the Vancouver conference, research teams presented findings on lean construction, attracting and retaining young leaders, and radical reduction in project cycle time. Several member organizations presented case studies as well.

At the Annual Conference, CII recognized Melissa Herkt, GlaxoSmithKline, as the recipient of the 2004 Outstanding CII Implementer Award. Michael R. Peters, Washington Group, recieved the Outstanding Instructor Award for his contributions to the learning process. The unveiling of the CII Leadership and Service Award also occurred. The award, named in honor of CII's first Director, Dr. Richard L. Tucker, was awarded to Kent Underwood, now retired from Monsanto and a long-time participant in both CII and the Construction Committee of The Business Roundtable.

Rohm and Haas

Shell Oil

Solutia

Sunoco

UOP

## PROCESS INDUSTRY PRACTICES

The mission of Process Industry Practices (PIP), a separately funded initiative of CII, is to harmonize its member companies' internal standards into PIP Practices. Those Practices are then used voluntarily by industry for engineering, procurement, and construction of process industry facilities. As PIP (pip.org) enters its 13th year, membership, subscriber, and licensee growth continues with over 60 companies now accessing PIP Practices.

In 2004, PIP continued to develop and enhance its Implementation Resource Center for members on the PIP website. The online center provides significant information on practices adoption and implementation metrics. The center includes success stories, lessons learned, member company addenda, and a design tools and reference information section.

A number of volunteers continue to be active PIP, and this is a key to increasing the awareness, acceptance, and use of PIP Practices. PIP has published over 475 Practices, which represents about 85 percent of the total identified for publication. In addition, a large number of these Practices are maintained and updated as they move through the review and revision cycles.

The potential cost savings through using PIP Practices is estimated to be between two and six percent of total installed cost for projects and maintenance work. Savings come in the form of less redesign and rework, less in-house training on specifications, and more efficient interfacing between owners, contractors, suppliers, and constructors.

Owners	Contractors	Subscribers	Licensees
3M	Aker Kværner	Agrium	ASME
Advanced Silicon	BE&K	Ambitech Engineering	Aspentech
Materials	Bechtel	Arrington Companies	Aveva Inc.
Aramco Services	Burns & McDonnell	C-P Systems	Bentley Systems
Arch Chemicals	Fluor	Canadian Natural Resources	IEEE
Arkema	Jacobs	Limited	ISA
BP	KBR	Coffeyville Resource	Intergraph
CITGO	Parsons E&C	Refining and Marketing LLC	National Insulation Association
CYTEC	S&B Engineers &	Eco Logic Chemical	St. Paul Technical College
Celanese	Constructors	Technologies Inc.	Universidad Nacional Autonoma
ChevronTexaco	Technip	Emerson Process Management	de Mexico
ConocoPhillips		GE Energy	University of South Dakota
Degussa		GE Silicones - OSi Specialites	
DuPont		Hovensa LLC	
Eastman Chemical		INVISTA S.à r.l.	
FMC		Kraton Polymers	
Flint Hills Resources		Petroleum Company of	
Honeywell		Trinidad & Tobago	
Huntsman		Saudi Basic Industries Corp.	
Monsanto		(SABIC)	
PPG		Saudi International Petrochemicals	

Co. (SIPCHEM)

Sherwin Williams

Southern Company

The Williams Companies

J.R. Simplot

## RESOURCES

# Sources and Uses of CII Resources (\$000)

		Net
Sources		
BEGINNING BALANCE:		
Carried Forward from 2000	602	
Reserve	750	1352
Membership Dues		\$3,312
Product Sales:		
Revenue	121	(24)
Production & Sales Other Sources	(143)	(21) 65
Other Sources		
Total Sources		3,356
Uses		
Programs:		
Research	1,270	
Implementation	132	
Education	175	
Knowledge	38	
Benchmarking & Metrics	417	
Breakthrough	63	
	2,095	
Benchmarking & Metrics Revenue	<b>(F3)</b>	
Other Program Revenue	(53) (81)	1,961
Conferences	(81)	
Annual Conference	702	
CPI Conference	121	
	823	
Attendance Fees	(603)	220
Supporting Activities		
Support of Members & Director's Groups	594	
Globalization	35	
Other Activities	40	
	669	
Revenue	(82)	587
Information Systems		147
General Expenses Administration	210	
Other Activities	316	700
Other Activities	393 709	709
Total Uses		3,624
Net		(268)
ENDING BALANCE		<del></del>

## THE CARROLL H. DUNN AWARD OF EXCELLENCE

The Carroll H. Dunn Award of Excellence is the highest recognition bestowed by the Construction Industry Institute. The award, established in 1985, bears the name of the original recipient, the late Lt. Gen. Carroll H. Dunn, U.S. Army. The purpose of the award is to recognize an individual who has had singular and notable responsibility for significant advancements in improving the construction industry.

## JAMES B. PORTER, JR.

James B. Porter, Jr. is the seventeenth recipient of the Carroll H. Dunn Award of Excellence. He joins Charles D. Brown and the late Robert H. Miller as those from DuPont who have been recognized by CII with its highest honor.



Born in Knoxville, Tennessee, the son of a firefighter, Porter had a boyhood fascination with science and engineering. His high school chemistry teacher, Charles Shinlever, was the single most important influence in shaping the future direction of his education and, ultimately, his career. It was Shinlever who cautioned Porter that without a PhD, his career in chemistry would consist of washing test tubes, not discovering new materials.

After Porter received his degree in chemical engineering from the University of Tennessee, he joined the DuPont Company. Early on, however, Porter left for a two-year tour of duty in the United States Army. He spent one year in South Vietnam and the next year involved in Army civil engineering projects in the U.S. When he returned to DuPont, he was transferred as a field engineer to the textile fibers plant in Chattanooga, Tennessee.

In 1970, Porter joined the design division of DuPont, which led directly to an involvement in construction projects. Construction, he noted, meant seeing progress every day and accomplishments were unveiled in real time in contrast to the much longer time periods involved in R&D.

During the 1980s, Porter's assignments expanded his knowledge and experiences in business methods and investments, adding to his capabilities in design and operational management. In 1990, DuPont named him director of Engineering Operations. Two years later, he became director of operations for the Fluoroproducts business. He became vice president of Engineering in 1996, vice president of Engineering and Operations in 1999, and vice president of Safety, Health & Environment and Engineering in 2004.

At DuPont and as a leader in construction industry organizations, Porter continues to focus on efficiencies that increase competitiveness. He looks for innovative ways to drive improvements in the business effectiveness of capital projects. Porter has personally implemented a five-zero initiative on DuPont projects that strives for: no on-the-job injuries; no off-the-job injuries; no environmental compromises; no people-related inequities; and no ethical behavior compromises.

In addition Porter continues to devote personal as well as professional time to support and lead industry organizations, including CII, FIATECH, the American Institute of Chemical Engineers, the National Society of Professional Engineering, and the National Dispute Avoidance and Resolution Task Force.

## CII 2004 STAFF

# <u>Director</u>

Hans VanWinkle

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