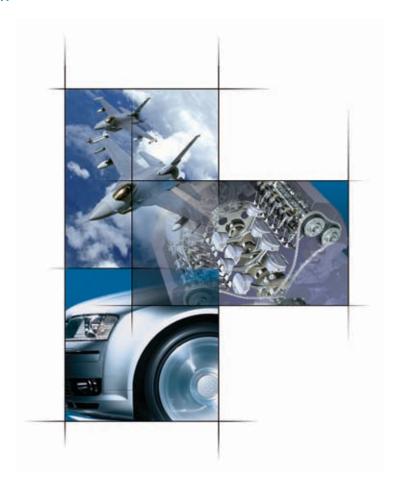
# **SAE**International<sup>™</sup>



# **SAE** International

connectivity creativity change



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## Executive Message for the

# **2002 Annual Report**



We take great pleasure in writing this Executive Message because it provides an opportunity to reflect and put forth an honest assessment of how well SAE is measuring up to its mission and objectives.

If pressed to characterize 2002 in a single word, that word would be "change;" we believe that the organization experienced more profound change in 2002 than at any point in SAE's nearly 100-year history. But, along with challenge comes opportunity. We're pleased that SAE has risen to meet numerous challenges, grown stronger and more resilient, and is better prepared to remain vital well into the 21st century.

The most troubling external change agent was the tragic events that unfolded on September 11, 2001, which immediately forced the cancellation of several of SAE's fall meetings. Thanks to member and staff planning, each of these events was successfully produced at a later date.

Another change agent affecting SAE in 2002 was the economy. SAE understands that we can no longer expect support from our members and their employers merely because we are a professional society. Like companies within the mobility industry, SAE has to earn its business every day by delivering value in everything we do.

The SAE Board of Directors and executive staff recognized that SAE needed to better understand current

customer needs and anticipate future needs and services. As such, SAE in 2002 embraced a philosophy of enhancing the organization's value proposition through increased attention to customer service.

The Board established a Task Force to address ways to enhance SAE's value to suppliers and manufacturers. After many meetings with corporate leaders, the Task Force issued several recommendations, including calls for significant changes to the SAE World Congress. As a result, the 2003 SAE World Congress was radically altered to meet the needs of our corporate customers, while still providing the rich content and learning opportunities that our individual members seek.

This year, the Board approved changes to its composition that will provide for more direct representation by the industries SAE serves; three new Vice President positions were added to the Society's leadership ranks. Robert E. Spitzer, Vice President of External Technical Affiliations and University Technical Relationships, The Boeing Company, will fill the first Vice President's position. This is key, because SAE is the home of aerospace engineers, and we intend to sharpen our focus on the aerospace industry.

SAE's staff also focused on meeting the needs of the automotive industry. Our Troy office underwent a successful makeover and has been branded as the SAE Automotive Headquarters. It is important that the world's preeminent automotive technical society maintains a visible, active presence in the world's automotive centers.

In 2002, SAE successfully partnered with the United States Department of Defense, Department of Energy, and the Federal Aviation Administration on an assortment of conference and program offerings. Plans are in the offing for similar joint ventures with many of these partners in 2003.

SAE also signed Memoranda of Understanding (MOU's) with the VDI Society for Automotive and Traffic Systems (VDI-FVT), the automotive branch of the Association of Engineers in Germany; Society of Automotive Engineers of Japan; and the Motorsports Industry Association in the U. K. These agreements signify a new era of joint cooperation among our respective organizations.

We were in India for the official signing of the documents that formally granted SAE India affiliate status. The signing of this MOU marks only the second time in SAE's 97-year history that an affiliate society had been established.

The move to enhance SAE's value proposition led to a major reorganization of our staff. While the move was painful, this "rightsizing" has reallocated staff, streamlined operations, and resulted in an organization that is competent, lean, and positioned to quickly respond to challenges and opportunities.

What does 2002 mean in the context of SAE's history? It means that SAE, despite having to face many unexpected challenges, has retooled and realigned resources to better meet the needs of our many and varied customers.

In closing, remember that SAE International is *your* organization – your involvement and continued support is critical to achieving SAE's mission.

Sincerely,

S. M. Shahed

Raymond A. Morris

# SAE International

#### What is a Brand?

The quest to define and maximize the impact of the SAE International brand led to a yearlong project that resulted in a new logo and some essential changes in the way the organization uses its logos.

Marketing texts might define a brand as a "name, sign or symbol used to identify your products or services and to differentiate them from goods of your competitors." In short, a brand is

> a promise. By identifying and authenticating a product or service with the SAE brand, we

deliver a pledge of satisfaction and quality to all who encounter our brand.

The **SAE Organizational Identity and Branding Manual** was created in 2002 to give SAE staff and member volunteers a resource for correctly using and promoting the SAE brand.

One of the important outcomes of the SAE branding program in 2002 was the creation of an SAE Aerospace logo that will help unify the many members of SAE who work in the aerospace community. The logo also defines the relationship to SAE, and it will help brand the thousands of aerospace standards, events, and publications SAE creates for aerospace professionals.



**SAE** International



### **We Connect**



2002 brought renewal, restructuring and results to the members and staff of SAE. After decades of existence as the SAE Detroit Branch Office, our Troy-based operation has evolved into the SAE Automotive Headquarters.

A name change involves more than just a new sign over the door. Recognition as SAE's Auto-

motive Headquarters serves as one component of a systemic improvement: connecting customer service with corporate brand management, member needs with organization goals and, most importantly, industry challenges with innovative solutions.

As SAE begins its journey in a new direction, we must keep the following program objectives in sharp focus:

- Increase awareness of SAE's significant presence and impact on the Detroit area.
- Enhance SAE's reputation as a global leader in automotive standards development through consolidated support and leadership.
- Secure SAE's position as a portal of technological and engineering excellence by quickly and efficiently addressing the local needs of members.
- Anticipate local automotive needs and provide a facility to develop global solutions through local presence and established relationships.
- Highlight the SAE commitment to a timely and pro-active effort in keeping up with the evolving automotive industry.
- Increase SAE's role in value-added connection between automotive OEMs and suppliers.

 Strengthen the membership of the local SAE Detroit Section through increased and creative marketing activity.

All of these objectives are driven by a desire to increase market awareness of SAE as a supplier of unique, system-oriented, automotive technical information. This awareness hinges on our ability to meet or exceed the demands of SAE customers in a costeffective manner.

#### 2002 Ground Vehicle Activities and Accomplishments

CAESAR Database: The CAESAR North American database product was made available to the public. The CAESAR (Civilian American and European Surface Anthropometry source) project is the result of a comprehensive research effort that brought together representatives from numerous industries including apparel and aerospace as well as automotive. CAESAR began as a partnership between government and industry to collect the most extensive sampling of consumer

body measurements for comparison. The project collected three-dimensional data on approximately 2,400 U. S. and Canadian citizens and over 2,000 European civilians.

**Alternate Refrigerants Symposium:** The 2002 SAE Alternate Refrigerant Systems Symposium held in Scottsdale, Arizona, hosted 220 world

industry representatives. The attendees came from 12 countries, 86 companies, five universities and two U. S. governmental agencies. This Symposium facilitated the timely sharing of information between both the SAE Standards Committee and the SAE Research Project Team, and also provided the opportunity for worldwide industry input into their future work projects.

#### **Cooperative Research Program:**

SAE's Cooperative Research Program continues to provide a forum for the industry to pool its resources and share in results of research and studies in numerous pre-competitive technology areas. This year, Electronically Controlled Braking Systems and CAESAR Anthropometric data gathering projects were completed. Work continues in High Strain Rate Plastics testing, J1939 Communication Protocol and Alternate Refrigerants. New projects under consideration include Otologic Trauma. Ergonomic Design Tools and Event Data Recording.

#### 42-Volt Electrical Sys-

tems: SAE continues
to provide industry
leadership in the
area of 42-volt electrical systems. 2002
was a very busy and
productive year as
SAE led the industry in
developing standards
and educating the auto-

motive community on the needs and challenges associated with transitioning to a higher voltage electrical system. SAE made presentations at two universities, eight SAE Section meetings, ten conferences, and provided eight dedicated 42-volt Professional Development opportunities. In addition, the first SAE 42-volt standard was published in 2002 for 42-volt blade fuses, with additional specifications slated for publication in 2003.

CAESAR



Fuel Cell Standards: The SAE Fuel Cell Standards Committee has positioned itself as the undisputed global leader in the development of standards and recommended practices for mobility applications of fuel cell technology. Three published documents - including a critical, internationally harmonized, vehicle-to-fueling station interface, the first-ever fuel cell vehicle safety J-document, and a preferred practice recyclability guideline that addresses "sustainable development" - were added to SAE's Terminology document in 2002. In order to build industry consensus and create the best possible scenarios for global harmonization of the Fuel Cell Standards Committee's products, the following agreements and working relationships were formed: liaison agreement with the ISO TC22 SC21; liaison agreement with the IEC TC105 WG-#6; Memorandum of Understanding (MOU) with the JEVA (Japanese Electric Vehicle Association); working relationship with the EIHP-II (European Integrated Hydrogen Project); MOU with the National Fire Protection Association; and an agreement with CEN's advisory task force on Hydrogen Fuel Specification.

### 2002 Proves to be a Busy Year for SAE Government Affairs Office

SAE's Washington, D. C., staff had a very productive year in 2002. Especially significant for SAE was our work on the United Nations (UN) World Forum for Harmonization of Motor Vehicle Regulations (WP29). Importantly, in July of 2002, SAE received Special Consultative status by the UN as a Non-Government Organization (NGO) to participate in sessions overseeing the development of international vehicle regulations. This special designation came from the UN's Economic and

Social Council (ECOSOC) based in New York City. This status provides SAE a formal seat at the regular sessions of WP29 and its subsidiary bodies, which meet in Geneva, Switzerland.

This past year, SAE sponsored two Fellows: one in the White House Office of Science and Technology

Policy (OSTP) focusing on aerospace policy issues; and one on the staff of Senator John Warner (R-VA), focusing on homeland security and energy issues. SAE also hosted a number of interns from various universities as part of the Washington Internship for Students of Engineering (WISE) program. In 2002, SAE's Washington, D. C. office, secured a \$144,000 grant for WISE from the NSF.

On-going activities of SAE's government affairs office. located two blocks from the White House, include: raising the visibility and image of the automotive engineering community; serving as a liaison with government agencies, Capitol Hill, and Executive Branch staff and members on domestic and international regulatory and legislative standards, as well as research and development issues; serving on environmental Executive Committees; serving on UN Safety, Security, and Environmental committees; and representing SAE on engineering and education coalitions. Additional projects include developing public awareness strategies for Congressional members and staff; managing SAE White House and Capital Hill Internship and Fellowship programs; coordinating annual Government/Industry meeting; preparing monthly editorials for SAE trade publications; seeking funding for SAE cooperative research programs; and coordinating and managing research contracts with the U.S. Department of Defense (DOD), Department of Energy (DOE),



Environmental Protection Agency (EPA), and the National Science Foundation (NSF).

Finally, SAE's Washington, D. C., office was active in numerous aerospace, math and science education, environmental, and safety coalitions to ensure our continued involvement in providing the best technical input into policy discussions. As part of these efforts, we co-sponsored numerous Capitol Hill luncheon briefings on fuel cell technology, emissions, math and science education, and aerospace research and development funding.

# 2002 Aerospace Activities and Accomplishments

New Sector Vice President Set to Assume Office in 2003: On March 4, 2002, the SAE Board of Directors approved changes to its composition that will provide for more direct representation by the industries SAE serves. Three new Vice President slots – Vice President Aerospace, Vice President Automotive, and Vice President Heavy Duty/Commercial – have been added to the Society's leadership ranks. Elected individuals will serve three-year terms in their respective offices.

An aerospace professional will fill the first Vice President's slot. At its September 10, 2002, meeting, the Board nominated Robert E. Spitzer, Vice President of External Technical Affiliations and University Technical Relationships, The Boeing Company, to serve the inaugural term as SAE's Vice President Aerospace. Mr. Spitzer's extensive background makes him uniquely qualified for this position. In October 2002, Mr. Spitzer's nomination

went before the membership for a vote; he was approved and will assume the office in March 2003.

The Vice President will provide a direct voice to the Board of Directors on issues and needs important to the aerospace industry, and will allow SAE to respond to those needs in a timely manner. Chief among the Vice President's duties: advising the SAE President on the aerospace industry; serving as chairperson for the Aerospace Program Office; and serving as spokesperson on aerospace matters in the absence of the SAE President.

**Aerospace Standards:** Aerospace Standards had a record year in 2002. Under the Aerospace Council of the Technical Standards Board (TSB), the program published over 577 new and revised standards. This brings the total number of active SAE aerospace standards (AS, AMS, ARP, AIR, ARD) to over 6,300. The primary reason for the recent program growth is due to the conversion of DOD military standards and specifications. Since the beginning of the DOD Acquisition Reform program, SAE has converted over 1,500 "milspecs" to SAE standards. The DOD adopted more standards from SAE than they adopted from any other standards developing organization.

Also in 2002, the Aerospace Council initiated the development of a strategic plan. The plan focuses on five major elements: global considerations, improved standards processes,



Robert E. Spitzer

across the entire TSB.

complete and begin enacting the plan in 2003.

SAE Responds

**to 9/11**: In order to

management and oversight, linkages

with other organi-

zations, and ad-

dressing new tech-

nologies. The Aero-

space Council will

ensure that SAE is prepared to react quickly to national or international emergencies related to safety or security, the Aerospace Council created a process for the rapid development of standards. The process can be used for the creation of a standard within 30 days and was adopted

**SAE A-6 Reorganized:** A-6 revised its charter to better address the demands for enhanced technology in powered flight controls. New technology environments include more complex mixed power distribution, hybridized hydraulic and electric actuation, and a focus on EHA/IAP/EMA, integrated actuation and control and a focus on unmanned vehicles. Committee A-6 is now titled "Aerospace Actuation, Control & Fluid Power Systems" with three Subcommittees: A-6A (Systems/Subsystems Integration), A-6B (Actuation & Control) and A-6C (Power Generation & Distribution).

AS8879C, Screw Threads-UNJ Profile, Inch Controlled Radius Root with Increased Minor Diameter: Over the past few years, SAE has become the leading standards organi-

come the leading standards organization for the conversion of DOD standards and specifications. One significant activity worth noting was the publication of AS8879C. This standard was generated to provide an alternative to the inactive government specification MIL-S-8879 for screw threads-UNJ profile, inch. During 2003, Committee E-25 will develop a companion document to provide some history on the development of screw thread standards (MIL-S-8879 and AS8879) and the rationale for the content of AS8879 Revision C.

Americas Aerospace Quality Group (AAQG): The SAE AAQG published five significant documents in 2002 including:

ARP9004 - Direct Ship - Recommended Practices for Aerospace Companies

AS9101A - Quality System
Assessment

AS9120 - Quality Maintenance Systems - Aerospace -Requirements for Stockist Distributors

AS9132 - Data Matrix (2d) Coding Quality Requirements for Parts Marking





AS9133 - Qualification Procedure for Aerospace Standard Parts

The AAQG continues to represent the Americas Sector through its association with the International Aerospace Quality Group (IAQG). The purpose of this association is to establish and maintain a dynamic cooperation between international aerospace companies on initiatives to make significant improvement in quality and reductions in cost throughout the value stream.

# SAE Meetings and Conferences: A Cooperative Effort

SAE offers its conference attendees extra value by partnering with other societies and organizations around the world to present a broader scope of information than any one organization can offer on its own. During 2002, such cooperative activities ranged from organizing a single session to full partnerships. For example:

- The annual International Congress on Environmental Systems, administered by SAE, is a partnership of AIAA, AIChE, ASME, and SAE technical committees, along with an international committee representing primarily Europe and Asia.
- Continuing a long-term relationship with the Austrian Society of Engineers and Architects (OIAV), which began in 1995 with the Total Life Cycle Conference and Exposition, SAE and OIAV continue to provide a forum for worldwide environmental issues and experts. In 2002, this partnership continued with the Environmental Sustainability Conference held in Graz, Austria. Planning is currently underway for the next Environmental Sustainability Con-

ference to be held in Europe in 2004.

- Activities and cooperation with Verein Deutscher Ingenieure (VDI), the German Association of Engineers, were greatly expanded this year. A comprehensive Memorandum of Understanding (MOU) was signed between SAE and VDI at the 2002 SAE World Congress. SAE's first joint meeting with VDI, the Digital Human Modeling Conference, was held in June in Munich. Plans are underway for many more cooperative efforts.
- SAE's World Aviation Congress has joined with the International Council of the Aeronautical Sciences, which represents aviation organizations in 32 countries, to organize/chair technical sessions and provide speakers for each other's events.

SAE and the Consumer

- Electronics Association (CEA) held the first ever Digital Car Conference, co-located with the SAE World Congress in March. Over 45 exhibitors and 1,300 delegates focused on in-vehicle electronics and information technology applications. The SAE/CEA collaboration also saw SAE organizing technical sessions on 42 volts and wireless applications for passenger cars for the Consumer Electronics Show in Las Vegas in January.
- The American Ceramics Society contributed to the organization of the five fuel cell-related sessions at the 2002 World Congress.
- At the Federal Aviation Administration's (FAA) request, SAE agreed to administer an In-Flight Icing/



Ground Deicing International Conference, which will be held for the first time in 2003.

- The SAE General Aviation Technology Conference (GATC) provided a forum for the FAA's General Aviation Forecast Conference and Designated Engineering Representative (DER) seminar. Other DER seminars, which provide ongoing certification for aerospace engineers, are planned in conjunction with future SAE conferences.
- Aerospace North America and SAE continue to collaborate on the biennial Aerospace Congress & Exhibition, the premier North American conference for the aviation industry.

 SAE reached an agreement with the DOD to administer its 2002 DOD Maintenance Symposium & Exhibition in October.

SAE will continue to explore and develop partnering opportunities to fulfill its mission of advancing the mobility community.

2002 SAE World Congress: A challenging year for the world's largest automotive technology conference produced encouraging results. The 2002 World Congress, hosted by Ford Motor Company, recorded higher OEM and international attendance than the previous year, as well as increased media attendance. The technical program featured a record 274 half-day sessions, including special Executive Panels that focused on issues such as vehicle styling, the role of diesel engines in the future, and hybrid electric vehicles. The exhibition showcased the latest technology from 1,000 firms that serve the global automotive industry.

Another feature of the World Congress was the co-location of the SAE Digital Car Conference in Michigan Hall. The 2002 World Congress had numerous highlights, including: the annual Honors Convocation; Cultural Diversity Workshop; Engineering/Management Symposium; Business Panel on India; Spotlight Panel on China; and an International Reception.

The World Congress drew to a close with a successful annual banquet featuring remarks by James J. Padilla, Group Vice President, Ford North America, Ford Motor Company.

**2002 Digital Car Conference:** In a clever nod to high-tech communications, people attending the Digital Car Conference technology sessions channeled instant comments to presenters via a Web link.

With a mouse click and a few keyboard taps, up to 250 audience members conveyed non-verbal comments and answered polls during the presenter's speech. At the same time, the presentations were streamed to the Web, so people all over the world could interact. Over 40 locations connected via the World Wide Web from countries as far as the United Kingdom, Germany, Korea and Australia.

Regarded as the first interactive Web stream of this magnitude and context, the high-tech, two-way communication format was intended to applications, hybrid electric technology, power electronics, energy storage, advanced internal combustion engine design, lightweight materials applications and future fuels.

Over 800 attendees were also able to examine the latest technology and vehicles at the exhibition. An added attraction in 2002 included a ride-and-drive activity conducted at the Federal Highway Turner-Fairbank Research Facility. Each attendee could drive the latest vehicles featuring fuel cells, hybrid/electric drives, diesel engines or hydrogen SI engines from a



show how SAE is on the cutting edge of learning technology. It has created the "e-factor:" energy, enthusiasm, and excitement.

2002 Future Car Congress: The biennial 2002 Future Car Congress (FCC) was held in Arlington, Virginia in early June. As in 2000, SAE administered FCC for the DOE. The event was co-sponsored by the United States Council for Automotive Research (USCAR). Richard Parry-Jones of Ford Motor Company chaired the executive committee that organized three plenary sessions. These sessions started each day's technical program, which featured presentations on fuel cells for transportation

variety of domestic and overseas manufacturers.

FCC continues a partnership with the DOE and USCAR that showcases the top technologies that will be used to design and produce the energy efficient vehicles of tomorrow.

2002 Off-Highway Congress: In cooperation with the Construction Industry Manufacturers Association and the International Concrete and Aggregates Group, the SAE International Off-Highway Congress was colocated with the CONEXPO-CON/AGG trade show held in March in Las Vegas. Approximately 2,100 SAE members attended the meeting and trade



show. The event featured technical sessions provided by SAE and the National Fluid Power Association, as well as the world's largest exhibit of off-highway technology.

the lowest in five years. The greatest losses in membership occurred outside of North America.

International, and receive all regular member benefits.

#### Local Activities and Attendance Reach Milestone

Member participation in local activities reached an all-time high in 2002. A total of 693 section events were held, an increase over last year's 596 activities. Additionally, member attendance at these events exceeded 23,000, a ten percent increase from 2001. This success can be attributed to the hard work and dedication of SAE's local section officers who implemented new, interactive meeting formats such as live web casts.

# Student Membership Sets Record

The dramatic growth of SAE's Collegiate Design Series, both within North America and internationally, has driven membership in the student sector to an all-time high of 17,500. While student membership reached record numbers, the same was not true for professional membership. Renewal rates dropped two points to 80 percent and new member growth was



# SAE India Becomes An Official SAE Affiliate

In the fall of 2002 in New Delhi, India, 2002 SAE President S. M. Shahed, along with SAE Executive Vice President Ray Morris, signed an MOU with engineers in India that formally granted SAE India affiliate status. The signing of this MOU is a major milestone in SAE's global development initiatives.

The event marks only the second time in SAE's 97-year history that an affiliate society has been established. The first such occasion was the establishment of SAE Brazil in 1992. SAE honored commitments made during a visit in 1969 by then-President Phil Myers to support engineers and automotive engineering students in India.

The effort to establish an SAE India Affiliate was started in 1995 by then-President John Leinonen. Since President Leinonen's trip to India, every subsequent SAE President has made a trip there as well, encouraging the local leaders in the formation of the affiliate society. The staff at SAE also worked closely with SAE India leaders and members to establish this affiliate.

Affiliate status allows the local indus-

try, universities, and engineers to take advantage of the global connection and reach of SAE. Additionally, an affiliate has its own leaders, manages its own business based on local economic conditions and currency, and provides technical information relevant to its members. Members of both SAE India and SAE Brazil enjoy dual membership within SAE

Over the past seven years, membership in SAE India has grown from 200 to approximately 6,000 members, including 4,500 student members with four sections spread over key automotive centers of India. During that same time period, SAE India organized two mobility conferences, several TOPTECs, workshops, student competitions, created an SAE India Website, and contributed several papers. SAE India has also established the SAE India Foundation, which is tasked with various educational initiatives.

## Global Initiatives Keep President Shahed Busy

President Shahed had a busy summer traveling outside North America on behalf of SAE. In June, an SAE delegation including Shahed, SAE Executive Vice President Ray Morris, and SAE's Global Development Manager Murli lyer participated in the Naples Section meeting in Italy. About 100 members and nonmembers were involved in a "One Day Workshop" held at the Instituto Motori, Naples. Shahed discussed Progress in Fuels and Diesel Engine Technology, while Morris gave a talk about SAE's globalization efforts.

The group then traveled to Catania, located near the Mediterranean Sea in the southern part of Italy, where Shahed gave a technical presentation at the University of Catania before a visit to the facilities of the world's largest microchip producer—STMicroelectronics.

A stop in Turin to visit Fiat-GM Powertrain and the Fiat Research Center preceded a July visit to France to meet with Claude Cham, newly elected President of French automotive society SIA,



SAE President Shahed presents a plaque commemorating Ivan P. Ksenevitch's designation as an SAE Fellow. Ksenevitch is SAE's consultant in Russia and Vice President of the Russian Academy of Engineering.

and Daniel Pfrimmer, CEO of SIA. SAE and SIA reviewed the MOU that exists between the two groups.

The group then traveled to Romania, where Shahed made a presentation on turbochargers at the Bucharest Polytechnic University. The group also visited the facilities of Honeywell - Garrett and Daewoo's Craiova plant before heading to Russia. On July 22, the delegation visited NAMI, where SAE's first Russian section was established. While there, Shahed awarded certificates to the winners of the Student Design Competition held at Vladimir University. Cash prizes donated by the Detroit Section under the Global Section Partnership program were given to the competition winners.

### SAE and Motorsport Industry Association Sign Cooperative Agreement

SAE and the Motorsport Industry Association (MIA), a trade group based in the United Kingdom, signed an MOU in March 2002, expressing a willingness to collaborate on education and engineering activities in the motor-

sports community. Both organizations share a common interest in promoting engineering education and inspiring students to become the next generation of mobility professionals.

The SAE Foundation and Education Relations Board have established successful programs with the SAE Collegiate Design Series and the "A World In Motion" program, which is geared

toward students ages in grades four through eight. The MIA has enlisted support for the Education Council International, including participation by universities, as part of its efforts.

The first event slated for joint coordination between the two organizations is the co-located Motorsports Engineering Conference and Performance Racing Industry Show, slated for December in Indianapolis. Plans are underway for additional cooperative ventures.

## SAE In-House Corporate Learning Hits Record Levels

Shortly after September 11, 2001, more companies than ever began taking advantage of SAE's corporate learning service, whereby training is conducted on company premises for groups of employees.

Normally, SAE's Professional Development unit works with about 35 companies a year to deliver standard or customized training on company premises. In the period from October 2001 to September 2002, this activity nearly doubled compared to the

previous year and established an alltime record.

Customization and hands-on learning were two elements companies requested frequently in 2002. While customization can be as simple as adding some company-specific information to one of SAE's publicly offered seminars, it often involves creating a whole new course from the ground up. And hands-on learning took on a whole new dimension when SAE conducted a complete engine teardown session for a corporate client.

Looking ahead, e-Learning will begin playing a larger role in keeping engineers current as training directors and engineering managers monitor time away from work and return on every training dollar.

#### **SAE Publications**

**SAE Fuel Cell Technology Collection on the Web:** The SAE Fuel Cell Technology Collection on the Web was released in 2002. The Collection includes more than 200 SAE technical papers, many of which are in color, from the 1960s through February 2002.

Highlights of this product include: full-text papers, all easily searchable; relevant information about fuel cells and fuel cell technology; ideas to help businesses progress with fuel cell technology; as well as general fuel cell automotive information, including what the future holds.

The SAE Fuel Cell Technology Collection on the Web covers a broad range of topics, including emissions, infrastructure, vehicle development, applications, and importantly, standards and codes of practice. The Collection is user-friendly and features free technical support from SAE.



The Standards Handbook for Aeronautical and Astronautical Engineers: Also in 2002, SAE released The Standards Handbook for Aeronautical and Astronautical Engineers. This volume, co-published with McGraw-Hill, is the first comprehensive resource expressly for aerospace engineers.

In the past, aerospace engineers and students have had to access a wide array of trade publications and books for comprehensive coverage of their highly specialized industry. With this publication, those practitioners now have a resource that delivers a combination of reference material and other data in a single, easy-to-use volume.

From basic engineering science and mathematics to astrodynamics, this book is the one resource that all starting and mature aerospace engineers need to take their work to new heights. This handbook con-

tains contributions from more than 50 aerospace specialists and is edited by an internationally renowned aeronautical engineering expert and educator.

### Automotive Engineering International (AEI) Continues Global Expansion

In a troubled economy, the magazines of SAE came through 2002 in good shape. For example, the advertising-page market share of *AEI* was a record 53 percent for 2002. The *AEI*'s editors created more than twice as much editorial, and an even

more overwhelming amount of technical information, than their leading competitors.

AEI led in engineering feature editorial with 677 pages to the combined coverage of 614 for the magazines two main competitors. The magazine was even more dominant in global coverage (188 versus 67 pages) and leading-edge automotive electronics content (87 versus 17 pages).

In 2002, the Magazines group also successfully led a redesign of *Aerospace Engineering*, giving it a more contemporary, cleaner look, and took over publishing responsibility for the Service Technicians Society's official maga-

zine, Service Tech.

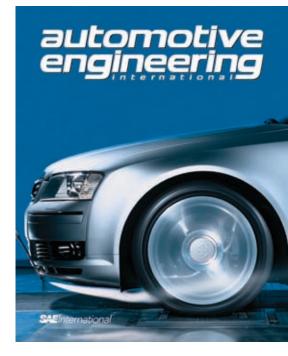


As part of an organization-wide effort to be more responsive to member needs, SAE revamped how it markets its products and services.

The new marketing philosophy revolves around developing and marketing our products and services in a way that our cus-

tomers expect – by industry sector (auto, aero, heavy-duty/commercial, maintenance) and topic areas (brakes, aerospace quality, vehicle dynamics, etc.). The result is a marketing tack that yields lower-volume but more targeted direct mail opportunities. An example of this type of effort would be a promotion piece on engines that includes the latest and best-selling seminars, books, electronic products, and meetings.

Additionally, SAE is using more Web and electronic mail initiatives to bolster our marketing reach. Many promotional efforts look to drive potential customers to the Web for additional



information, where the selections will be cross-referenced to related products/services. Also, we now use electronic newsletters to provide the latest in product/service information to our members/customers via electronic mail in the categories of auto, aero, heavy-duty/commercial, and motorsports.

SAE has also taken steps to strengthen our organizational identity and brand. In this strategy, all of our communications with our members and customers now reflect a consistent image. By leveraging a strengthened brand image, SAE can better capitalize on our globally-recognized excellence in developing and delivering lifelong learning products/services and consensus industry standards.

#### Customer Relationship Management Centralizes Sales, Marketing and Customer Service Functions

In a major change relative to the way SAE interacts with its customers and members, customer service resources from around the organization were combined to form a Customer Relationship Management (CRM) group.

In laying the groundwork for this shift, SAE explored many customer service models and strategies, settling on the customer relationship management model. SAE's working definition for CRM is "a business philosophy that aligns its people, processes, and technology around customer needs and builds a long-term relationship based on mutually-received value."

In the past, SAE's customer service functions were largely decentralized and scattered throughout the organization. The new CRM group combines sales, marketing and customer service functions into cohesive units that serve as the customer's singlepoint of contact for a variety of issues. This group is tasked with maintaining a laser-like focus on the customer, paying attention to both the needs of members as well as those of the industry-at-large.

This represents a fundamental, organization-wide shift in philosophy regarding customer interactions. CRM champions will lead the change in the SAE corporate mindset to one that exemplifies the concept of delivering value consistently – and with one voice – in every customer interaction.

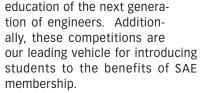
# **Educational Relations Highlights**

**Collegiate Design Events:** The competitions of SAE's Collegiate Design Series have become an important aspect of engineering education around the world. These events challenge students to design, fabricate, test, and compete with a vehicle that achieves the objective of the event. Success in our design competitions depends on a team's

ability to combine engineering expertise with a full range of project management skills. Design expertise alone is not enough; teams must complete their projects on time and be ready to explain all of their decisions to the judges.

In 2002, the competitions attracted over 500 teams to the events in

North America and more than 800 teams worldwide. With over 5,000 student competitors annually, these competitions are SAE's most important contribution to the



2002 Clean Snowmobile Challenge™ (CSC) – Kettering University and the University of Idaho shared first place honors at the third annual SAE CSC held in Jackson Hole, Wyoming. CSC requires student teams to design and build a low emission, low noise, trail snowmobile. Winning the competition requires developing a durable snowmobile that will perform well in a variety of tests.

Mini Baja® Series – The Mini Baja series continues to grow and attract new teams from around the world. The three universities from South America that participated in Midwest Mini Baja set an impressive record. The two Brazilian entries from Centro Universidad UniFE finished third and sixth, while the first entry from Argentina, Instituto Technologico Buenos Aries, came in eleventh.

Formula SAE® Series – The 2002 Formula SAE competition attracted a record 118 teams, representing universities in the United States, Canada, Mexico, Puerto Rico, England, Japan, Australia, Korea and Venezuela. Cornell University won the competition for the second strait year, establishing a new record high score of 927.6 points out of a



possible 1,000, finishing first in four events in the process.

Formula Student in the U. K. and Formula SAE® Australasia are further proof that the Formula SAE series provides educational opportunities that today's students and their future employers in the mobility industry, demand. At FSAE-Australasia, the University of Wollengong swept the dynamic events and finished first over 14 Australian universities, besting teams from Germany, Japan and the U. S., as well.

#### A World In Motion (AWIM)

**Teacher Workshops** – Throughout 2002, the AWIM program was very involved in providing teacher training for the curriculum. Workshops were held in cooperation with two national teacher conferences: the International Technology Association conference and the National Science Teachers Association conference. Also, the Oklahoma and Connecticut state departments



of education sponsored AWIM workshops during the 2002 school year. Science centers such as Milwaukee Discovery World, San Diego Aerospace Museum, and the Boonshoft Museum in Dayton, Ohio, actively provided AWIM professional development opportunities for teachers. Universities such as California University of Pennsylvania, St. Cloud State in Minnesota, and the University of Central Florida also provided sites for

The award, given annually since its inception in 1998, recognizes teachers who have effectively implemented the SAE Foundation's A World In Motion program to further develop students' understanding of the principles of motion and the science that underlies them. It honors the work and dedication of Lloyd Reuss, former President of General Motors Corporation and a long-time supporter of the AWIM program.



AWIM teacher training. AWIM continues to provide opportunities for veteran AWIM teachers to share their "best practices" with those just discovering the curriculum.

**AWIM Challenge Four - SAE staff** spent the better part of 2002 developing A World In Motion Challenge 4 curriculum that will explore electricity and how it relates to self-propelled vehicles. AWIM Challenge 4 will consist of a CD-Rom with two "hands on" application kits filled with exciting educational activities. The kits will provide students with the opportunities to construct such things as lemon juice batteries and magnetic motors. The curriculum will target grades 4 through 10 and will be available for classrooms in spring 2003. The same principles integral to A World In Motion Challenges 1, 2 and 3 are also in Challenge 4. Students will learn the "engineering design experience" by participating in design challenges that integrate language arts, social studies, mathematics, science and technology.

**2002 Teacher Awards** – Sharon Stevenson, a fifth grade teacher in New Lenox, Illinois, was awarded the 2002 SAE Lloyd Reuss Award for Teaching Excellence.

Stevenson has taught fifth grade students at the Caroline Bentley Elementary School in New Lenox for over 20 years. She earned her Bachelor's degree from Illinois State University, and later her Masters in Education from Indiana Wesleyan University.

Also, Pamela Schmitt, a seventh and eighth grade teacher in Cedar Falls, Iowa, received the 2002 SAE Gary Dickinson Award for Teaching Excellence.

This annual award, recently established by the SAE Detroit Section, recognizes an outstanding middle school teacher and school for the best use of the SAE Foundation's A World In Motion: Challenges 2 & 3 curriculum to further develop students' interest in math and science. It commemorates the life of Gary Dickinson, an automotive industry leader and long-time supporter of both SAE and its AWIM program.

Schmitt has taught at the Saint Patrick School in Cedar Falls for over 14 years. She received her Bachelor's degree from the University of Northern Iowa and has been an active educator since her graduation. In addition to her teaching duties, Schmitt is involved in an assortment of leadership roles at the school and within the Archdiocese of Dubuque.

#### SAE Process Resource Center (PRC)

Over the past year, facilitation and process consultation have become an integral part of SAE's member and staff operations. Since its inception in 2000, the PRC has provided SAE with expertise in these areas. The PRC focuses on providing change leadership to grow SAE and is achieved by systematically driving change and process improvements throughout the organization. Key organizational changes in 2002 resulting from PRC leadership include: the reorganization of SAE; strategic planning for SAE's operating boards/committees and staff leadership; sharpening the focus on SAE's automotive, aerospace and heavy duty business initiatives; and conducting Kaizen activities to maintain a clear focus on the customer through continuous process improvements.

# Service Technicians Society (STS) Highlights

During 2002, the STS Board of Governors reorganized the society's structure to encourage growth among specialty segments. The good news: membership for the society held steady in a rocky economic environment. More importantly, STS increased revenue 40 percent and decreased expenses by 12.5 percent over fiscal year 2001. Additional highlights:

- STS completed its first research project for a group of OEMs and Tier 1's on "Technician Diagnostic Needs."
- Service Tech magazine remained the highest rated STS membership product.
- Siegel/STS Scholarship was awarded to four students at technology colleges in Montana.

- The American Society of Association Executives recognized the STS Recruiter Kit and the STS Future TIP (Technology Input Program) with awards.
- STS launched its first technical training sessions, drawing over 500 attendees to nine different locations.

Information Partnership Program distributed thousands of donated technical manuals and CDs to members.

#### Performance Review Institute (PRI): 2002 Sets Stage for Triple Digit Growth

PRI had a very solid year in 2002, conducting over 1,796 audits. This represents a 20 percent increase over the record number of audits conducted in 2001. PRI's total revenue for 2002 was approximately \$8.7 million, which is a \$2 million increase over 2001's figure. Additionally, it is projected that PRI's year-end margins will exceed \$550,000. This will result in current net assets of approximately \$1,600,000.

The activities of 2002 have set the stage for an extraordinary future. Boeing subscribed to National Aerospace and Defense Contractors Accreditation Program (NADCAP), as did Vought Aircraft, MD Helicopter, Bell Helicopter, and NASA. Collectively, this group of subscribing Primes has a larger group of special process suppliers (the core of PRI's business) than any previous year's group of subscribers or any future annual group that might join. This increase in subscribing Primes was further supplemented by launching two additional NADCAP Special Processes - Composites and Nonconventional Machining Surface Enhancement (NMSE). Also, the NAD-

CAP Executive Strategic Planning Board launched another Task Group on Electronic Card Assembly/Printed Wire Boards. In 2002, the PRI Board approved a business plan for NADCAP expansion into Asia. It's projected that PRI will conduct 20 audits in Asia in 2003, with over 350 audits projected in Asia for 2004.

The new Primes subscribing to NADCAP in 2002 will result in PRI conducting 110 percent more audits over the next two years. In order to support this growth, PRI has developed and launched an electronic auditing software package designed to computerize every facet of the auditing process. Detailed plans have been developed on such critical issues as auditors, technical experts, staff, equipment, and space needs. Recognizing that nearly all of this growth will be in aerospace, PRI Registrar has developed a stable of AS9100 qualified auditors that rivals any of its competitors. The PRI Registrar remains committed to its vision and mission to "raise the bar" for the third party certification industry.

#### **SAE Foundation Notables**

The following highlights were taken from the SAE Foundation's 2002 annual report:

General Motors announced the donation of VIN #000002, one of 25 vehicles produced as part of the Chevrolet SSR Signature Series, to the SAE Foundation. Excitement about the launch of the SSR has been building for several years since it was introduced as a concept vehicle. The vehicle will be auctioned on eBay® in April 2003. Proceeds from the auction will benefit the Heinz C. Prechter Award for Automotive Excellence.

- The SAE Foundation web cast featuring G. Richard Wagoner, Jr., President and CEO of General Motors Corporation, has won two awards an award of honor in the National Communicator Awards competition and an award of merit from the Public Relations Society of America, Pittsburgh Chapter Renaissance Awards. Mr. Wagoner addressed SAE's Detroit Section at the Detroit Science Center; his topic was "The Future of Global Technology Leadership: Can We Get There From Here?"
- In recognition of his numerous contributions and outstanding leadership, the SAE Foundation established the Ableson Award for Visionary Leadership to honor former SAE Foundation Chairman, 1999 SAE President, and SAE Foundation Canada President, Donald W. Ableson. The award is the highest recognition that the Foundation board bestows on an individual who has exhibited exemplary leadership both within his/her industry and to both SAE and the SAE Foundation.
- The SAE Foundation Cup, awarded to the first place team from the Formula SAE Design competition, has been renamed in honor of Neil A. Schilke, 2001 SAE President.
- The SAE Foundation sponsored the Sally Ride Science Club® Science Festival for Girls that took place at the University of Michigan in September 2002. Alba Colon, Chevy NASCAR Racing Program Manager at General Motors, represented the Foundation at a workshop she conducted titled "Keeping Safe at 200 MPH." Colon, who began her affiliation with SAE as the team captain for the Formula SAE Collegiate team representing the University of Puerto Rico, Mayaguez, was thrilled to meet her mentor, Sally Ride.

# **Corporate Directory**

#### The 2002 SAE Board of Directors



2002 President S. M. Shahed Vice President, Advanced Products & Systems

Garrett Engine Boosting Systems

Honeywell International, Inc.



Jack E. Thompson
Director, CAE & Concept Development
Advance Vehicle Engineering
DaimlerChrysler Corporation

2003 President-Elect



2001 President
Neil A. Schilke
General Director of Engineering,
Corporate Staffs
General Motors Corporation



Vice President
Application and System Engineering
Automotive Chassis Division

2002 Treasurer



2002 Assistant Treasurer Greg W. Henderson F-16 Chief Systems Engineer Lockheed Martin Aeronautics Co.



Executive Vice President and Secretary Raymond A. Morris

SAE International

#### **Directors** One-Year Term (2002)

Robert Bosch Corporation

#### Pierre Alegre, Jr.

Director, Program Management Bombardier Aerospace Corporation

#### **Chuck W. Allport**

Assistant to the Academic Vice President Cedarville University

#### **Arthur Howland**

Ford Motor Company (retired)

#### John R. Kinstler

Vice President Engineering Hayes Lemmerz International

#### **Bruce D. Peters**

Manager, Diesel Technology Fiat Auto Powertrain Italia

#### Brian R. Richardson

Director – Marketing Delco Remy International

#### Renee T. Sears

Director, Vehicle Interior Engineering Nissan Technical Center North America, Inc.

#### **Directors** Two-Year Term (2002 – 2003)

#### Stephen D. Burdette

Manager Product Safety & Regulation Technical Center CNH Global NV

#### Bernard J. Cousyn

Research Engineer PSA Peugeot Citroen

#### Daniel M. Hancock

Chief Executive Officer
Fiat – GM Powertrain

#### Donald G. Hillebrand

Manager, Research Policy
DaimlerChrysler Corporation

#### Gerald S. Jakubowski, Ph.D.

Dean

College of Science and Engineering Loyola Marymount University

## William R. Leppard

Principal Research Engineer
GM Research & Development Center

#### Terence J. Rhoades

Vice President AVL Powertrain Engineering, Inc.

#### **Directors** Three-Year Term (2002 – 2003 – 2004)

#### Eden H. C. Chen

Principal Consultant, Transportation Chen Technology, Inc.

#### Teresa A. Hundley

Supervisor, Product Engineering Delphi Energy & Chassis Systems

#### **Robert L. Ireland**

Director, Training Devices & Facilities United Airlines, Inc.

#### Douglas C. Johnson

President Cal-Draulics, Inc.

#### D. Brad Keleher

Senior Engineer John Deere & Company

#### Landon J. Sproull

Assistant Chief Engineer Peterbilt Motors Company

#### **Keith Barend Termaat**

CEO

Suntree Associates, Ltd.



# **SAE** International

#### **Corporate Headquarters**

400 Commonwealth Drive Warrendale, PA 15096-0001 Phone: 724-776-4841 Fax: 724-776-5760 http://www.sae.org

#### **Automotive Headquarters**

755 West Big Beaver Road Suite 1600 Troy, MI 48084 Phone: 248-273-2455 Fax: 248-273-2494

#### **Branch Office**

#### Washington, D. C.

1300 | Street, N.W Suite 1090 Washington, D. C. 20005-3314 Phone: 202-962-8691

Phone: 202-962-8691 Fax: 202-962-8692

#### **Affiliates**

## SAE BRASIL

#### SAE Brasil

Av Paulista 2073 Horsa 11 C CEP 01311 940 Sao Paulo, Brazil Phone: 011 55 11 287 2033 Fax: 011 55 11 288 6599

## SAE INDIA

#### **SAE India**

Room No.1, Ground Floor ISTE Professional Centre, Anna University Staff Quarters Campus, Gandhi Mandapam Road,

Chennai - 600 025. Phone : 91-44-24411904 Telefax : 91-44-24411904 E-mail : saeindia@vsnl.com



#### **Performance Review Institute (PRI)**

161 Thornhill Road Warrendale, PA 15086-7527 Phone: 724-772-1616 Fax: 724-772-1699 http://www.pri.sae.org



## Service Technicians Society (STS)

400 Commonwealth Drive Warrendale, PA 15096-0001 Phone: 1-800-787-9596 Fax: 724-776-2644 http://www.sts.sae.org



#### **SAE Foundation**

400 Commonwealth Drive Warrendale, PA 15096-0001 Phone: 724-776-4841 Fax: 724-776-0038 http://www.sae.org/foundation

## SAE Sections/Groups

#### **Outside North America**

United Kingdom

Minsk, Belarus Mogilev, Belarus SAE Beijing, China Cairo, Egypt Hong Kong Naples, Italy Kuala Lumpur, Malaysia Mexico Bryansk, Russia

Nizhni Novgorod, Russia

Moscow, Russia

St. Petersburg, Russia
Volga, Russia
Aviation and Astronautics Development, Russia
Central Proving Ground, Russia
Orenburg, Russia
Zhukovsky (Moscow), Russia
VTK, Russia
Taipei, Taiwan
Kiev, Ukraine

#### **Joint Sections**

Bucharest, Romania Brasov, Romania Constantza, Romania

## To all SAE International Members

We are pleased to present the SAE fiscal year 2002 audited financial statements for your information and review. The accompanying reports are: the Independent Auditor's Report, Statements of Financial Position, Statements of Activities and Changes in Net Assets, Statements of Cash Flows, and the Notes to Financial Statements. The SAE Foundation and the Service Technicians Society are unincorporated affiliates of SAE and, accordingly, are included in the accompanying financials. The actual accounts of SAE and the SAE Foundation are maintained separately and the respective funds are not co-mingled.

The Statements of Financial Position reflect total assets of \$52.7 million at the end of the fiscal year. The decrease in total assets was \$10.6 million, or a decrease of 16.7% compared with 2001, due to losses in both operating and non-operating activities. Despite this decline in assets, we believe you will find the Statements of Financial Position show SAE continues to be financially well positioned to provide strong member service activities in the future.

In 2002, the Statements of Activities and Changes in Net Assets reflect SAE operating revenues of \$51.1 million. The net loss from operations was \$2.9 million. Operating revenues were \$8.6 million short of budget expectations. Cost containment initiatives, which included a significant workforce reduction, were implemented during the fiscal year. These initiatives offset much of the revenue shortfall without any significant impact on services to our members.

In non-operating activities, SAE invested \$2.2 million in development activities to fund new programs. Development activities are generally funded with income and realized gains from the General Investment Fund. In 2002, however, investment activities finished with a loss of \$3.9 million, due primarily to a decline in the market value of long-term investments. The investment in development activities, when combined with long-term investment losses and a one-time adjustment for early retirement pension expense, result in a total non-operating loss of \$7.0 million.

Net assets decreased \$9.9 million during 2002 as a result of the operating and and non-operating losses noted above. The decrease in net assets for the year of \$9.9 million, when combined with net assets at the beginning of the year of \$47.9 million, result in \$38.0 million net assets at year-end.

In addition to the Audit Report information which follows, we were pleased once again to receive a favorable management letter from our independent auditors commenting on excellent internal accounting controls and accurate financial reporting from SAE.

As a reminder, please recall that SAE is tax exempt under Section 501(c)(3) of the Internal Revenue Code. Ultimate responsibility for the financial statements and other information in the annual report rests with the SAE Board of Directors. The Board, through its Finance Committee and

Financial Audit Committee, monitors the system of accounting and internal controls, investment management, and the professional competency and integrity of persons performing these functions. The independent auditors have direct access to the Financial Audit Committee to discuss the scope and results of their audit, their comments on the adequacy of internal accounting controls, and the quality of financial reporting.

If you would like more details about the accompanying financial statements or any aspect of financial operations at SAE, please feel free to contact either of us or Dana Pless, Chief Financial Officer at SAE World Headquarters **dpless@sae.org**.

Respectfully submitted,

Karl Goering Treasurer

goering@email.sae.org

Gregory W. Henderson Assistant Treasurer

greg.henderson@email.sae.org

# Society of Automotive Engineers, Inc.

We have audited the accompanying statement of financial position of the Society of Automotive Engineers, Inc. as of September 30, 2002, and the related statements of activities and cash flows for the year then ended. These financial statements are the responsibility of the Society's management. Our responsibility is to express an opinion on these financial statements based on our audit. The prior year summarized comparative information has been derived from the Society's financial statements and, in our report dated November 9, 2001, we express an unqualified opinion on those financial statements.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Society of Automotive Engineers, Inc. as of September 30, 2002, and the changes in its net assets and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Stelmack Dobransky & Eannace, LLC

Joseph S. Stelmack, CPA, Member

November 1, 2002 (except for Note 17, as to which the date is November 21, 2002)

Joseph & Stelmack, CA, Menter

November 1, 2002

**Statements of Financial Position** September 30, 2002 and 2001 (000's omitted)

	2002	2001
ASSETS		
CURRENT ASSETS		
Cash and Short-Term Investments	\$ 3,223	\$ 4,666
Current Portion of Long-Term Investments	2,513	2,437
Accounts Receivable - Less Allowance for		
Doubtful Accounts of \$223 and \$116	3,120	3,609
Pledges Receivable	711	543
Inventories and Supplies	1,023	597
Prepaid Expenses		2,506
Accrued Interest and Other Receivables		1,430
Total Current Assets	14,540	15,788
LONG-TERM INVESTMENTS - Market Value	27,856	33,737
OTHER ASSETS		
Pledges Receivable - Amounts Due After One Year	281	346
Conference Costs - Net of Accumulated		
Amortization of \$5,288 and \$4,030	-	1,258
Deferred Pension Costs	<u> </u>	1,019
Total Other Assets		2,623
EIVED ACCETC		
FIXED ASSETS Land and Divildings	10.451	10.270
Land and Buildings		10,379 17,396
Total Cost	· · · · · · · · · · · · · · · · · · ·	27,775
Less Accumulated Depreciation		16,660
Net Fixed Assets		11,115
TOTAL ASSETS		\$ 63,263
LIABILITIES AND NET ASSET		
CURRENT LIABILITIES	10	
Current Portion of Long-Term Debt	\$ -	\$ 280
Accounts Payable		5,317
Accrued Expenses		1,126
Deferred Revenue:	,	,
Conferences and Publications	5,944	5,969
Dues and Fees	2,483	2,486
Total Current Liabilities	13,322	15,178
LONG-TERM LIABILITIES - Amounts Due After One Year		
Accrued Pension Costs	1,196	
Charitable Gift Annuity	· · · · · · · · · · · · · · · · · · ·	185
Total Long-Term Liabilities		185
Total Bong-Term Blabilities	1,017	100
TOTAL LIABILITIES	14,696	15,363
NET ASSETS		
Unrestricted	32,076	42,205
Temporarily Restricted	,	4,132
Permanently Restricted		1,563
Total Net Assets		47,900
TOTAL LIABILITIES AND NET ASSETS	\$ 52,682	\$ 63,263
	,	

See Independent Auditor's Report and Notes to Financial Statements

**Statements of Activities and Changes in Net Assets**For the Year Ended September 30, 2002
With Comparitive Totals For the Year Ended September 30, 2001 (000's omitted)

		2002			2001
		Temporarily		•	
	Unrestricted	Restricted	Restricte	d Total	Total
OPERATING ACTIVITIES					
Revenue					
Meetings and Conferences	\$11,912	\$ -	\$ -	\$11,912	\$16,430
Magazines and Publications		-	_	22,228	24,719
Membership		_	-	4,775	4,902
Technical Standards		_	-	4,264	4,275
Other Products and Services		150	-	775	925
Contributions	306	1,507	_	1.813	1,873
Contributed Services		_	_	5,337	6,285
Net Assets Released	-,			-,	-,
from Restrictions	1,755	(1,748)	(7)	_	_
		, , , ,	· ,		
Total Revenue	51,202	(91)	(7)	51,104	59,409
Expenses					
Meetings and Conferences	11,394	_	_	11,394	14,183
Magazines and Publications		-	=	12,440	14,430
Membership		_	-	2,738	3,034
Technical Standards	·	_	_	4,508	5,283
Other Products and Services		_	_	3,323	3,298
Administrative Services		-	_	11,998	11,267
SAE Foundation	·	_	_	2,240	2,332
Contributed Services	•	-	_	5,337	6,285
Total Expenses	53,978	-	-	53,978	60,112
Net Change from Operations	(2,776)	(91)	(7)	(2,874)	(703)
NONOPERATING ACTIVITIES					
Development Activities	(2,159)	-	-	(2,159)	(2,408)
Investment Activities - Net	, , ,			, , ,	
of Expenses of \$119 and \$154	(4,254)	313	_	(3.941)	(4,068)
Early Retirement Pension			-	(940)	
Net Change from Nonoperations	s <u>(7,353)</u>	313	-	(7,040)	(6,476)
CHANGE IN NET ASSETS	(10,129)	222	(7)	(9,914)	(7,179)
NET ASSETS - BEGINNING OF YEAR	42,205	4,132	1,563	47,900	55,079
NET ASSETS - END OF YEAR	\$32,076	\$ 4,354	\$ 1,556	\$37,986	\$47,900

**Statement of Cash Flows**For the Years Ended September 30, 2002 and 2001 (000's omitted)

	2002	2001
CASH FLOWS FROM (USED IN) OPERATING ACTIVITIES		
Change in Net Assets\$	(9,914)	\$ (7,179)
Adjustments to Reconcile Change in Net Assets	(-)	, (-,)
To Net Cash Used by Operating Activities:		
Depreciation and Amortization	3,387	3,142
Net (Gain)/Loss on Sale of Fixed Assets	(24)	16
Net (Gain)/Loss on Investments	5,054	5,322
Changes in Assets (Increase)/Decrease	,	,
Accounts Receivable	489	229
Accrued Interest and Other Receivables	(182)	62
Prepaid Expenses	`168 <sup>′</sup>	(969)
Inventories and Supplies	(426)	(291)
Pledges Receivable	(103)	227
Deferred Pension Costs	1,019	781
Changes in Liabilities (Decrease)/Increase	-,	
Accounts Payable	(2,171)	1,600
Accrued Expenses	623	(1,242)
Deferred Revenue	(28)	(2,195)
Accrued Pension Costs	, ,	(2,120)
_		
Net Cash From (Used In) Operating Activities	(912)	(497)
CASH FLOWS FROM (USED IN) INVESTING ACTIVITIES		
Purchase of Fixed Assets	(1,050)	(2,411)
Proceeds from Sale of Fixed Assets	55	321
Purchase of Investments	(16,960)	(21,155)
Proceeds from Sale of Investments	17,711	21,721
Net Cash From (Used In) Investing Activities	(244)	(1,524)
CASH FLOWS FROM (USED IN) FINANCING ACTIVITIES		
Debt Reductions	(287)	(240)
NET INCREASE/(DECREASE) IN CASH BALANCES	(1,443)	(2,261)
CASH AND CASH EQUIVALENTS - BEGINNING OF YEAR	4,666	6,927
CASH AND CASH EQUIVALENTS - END OF YEAR	3,223	\$ 4,666
SUPPLEMENTAL INFORMATION:		
Interest Paid\$	4	\$ 23
Income Taxes Paid\$		\$ -

#### **Notes to Financial Statements**

For the Years Ended September 30, 2002 and 2001

#### 1 GENERAL

The Society of Automotive Engineers, Inc. (SAE) is a not-for-profit corporation originally organized and incorporated in 1905 under the laws of New York and reincorporated in 1986 under the laws of Pennsylvania. SAE is a technical society aimed at developing, collecting and disseminating on a worldwide basis the knowledge of mobility technologies in order to advance these fields and their practitioners in a manner which serves humanity. The SAE Foundation and the Service Technicians Society (STS) are unincorporated divisions of SAE and, accordingly, are included in the accompanying financial statements.

SAE Foundation-Canada is organized as a separate entity under the laws of Canada. It was formed to manage the activities, missions and goals in support of SAE in Canada, which requires SAE Foundation-Canada's solicitation and receipt of specific funding from individuals, public or private corporations, foundations, or government agencies. The SAE Foundation-Canada operates under the direction of a Board of Trustees with administrative support provided by the SAE Executive Vice President and reports directly to the SAE Board of Directors.

SAE is affiliated with Performance Review Institute, Inc. (PRI), a Pennsylvania corporation organized by SAE in April 1990 to compile and review performance standards, to promote and administer quality assurance, accreditation and certification programs for the benefit of the general public, industry and government. PRI also contributes funds, property and services to nonprofit organizations that develop and publish standards for maintaining and improving quality and performance within the automotive industry. The Internal Revenue Service has granted PRI tax-exempt status under Section 501(c)(6) of the Internal Revenue Code.

#### 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting - The accompanying financial statements are prepared on the accrual basis of accounting and include only the assets, liabilities, net assets and financial activities of the international organization of the Society of Automotive Engineers, Inc. The funds and accounts of Society Sections are not included in the accompanying financial statements. However, Sections are permitted to invest in a money market investment pool and a long-term investment pool managed by the Society. Funds of Sections participating in the pool are included in the Short Term Investment Fund and are reflected as an accounts payable liability in the accompanying financial statements.

<u>Comparative Financial Information</u> - The Statements of Activities and Changes in Net Assets include certain prior-year summarized comparative information in total, but not by net asset class. Such information does not include sufficient detail to constitute a presentation in conformity with generally accepted accounting principles. Accordingly, such information should be read in conjunction with SAE's financial statements for the year ended September 30, 2001, from which the summarized information was derived.

<u>Financial Statement Presentation</u> – SAE has adopted Statement of Financial Accounting Standards (SFAS) No. 117, "Financial Statements of Not-for-Profit Organizations". Under SFAS No. 117, SAE is required to report information regarding its financial position and activities according to three classes of net assets:

Unrestricted net assets - Net assets that are not subject to donor-imposed stipulations.

 $\underline{\text{Temporarily restricted net assets}} - \text{Net assets subject to donor-imposed stipulations that may or will be met either by actions of SAE and/or the passage of time.}$ 

Permanently restricted net assets - Net assets subject to donor-imposed stipulations that they be maintained permanently by SAE. Generally, the donors of these assets permit SAE to use all or part of the income earned on related investments for general or specific

Contributions - SAE has also adopted SFAS No. 116, "Accounting for Contributions Received and Contributions Made." In accordance with SFAS No. 116, contributions received are recorded as unrestricted, temporarily restricted, or permanently restricted support depending on the existence or nature of any donor restrictions.

Cash and Cash Equivalents - For purposes of the Statement of Cash Flows, SAE considers all highly liquid investments with an initial maturity of three months or less to be cash equivalents. For the years ended September 30, 2002 and 2001, SAE had no noncash investing or financing activities for cash flow purposes.

Estimates - Management uses estimates and assumptions in preparing financial statements. Those estimates and assumptions affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported revenues and expenses. Actual results could differ from those estimates.

<u>Investments</u> – SAE has adopted SFAS No. 124, "Accounting for Certain Investments Held by Not-for-Profit Organizations." In accordance with SFAS No. 124, investments are presented at their current market value, which is established using published market prices.

<u>Inventories</u> - Inventories and supplies are stated at the lower of cost (determined on the first-in, first-out or average cost method) or market.

Fixed Assets - Fixed assets are recorded at cost and depreciated using the straight-line method over estimated useful lives of three to forty years. Depreciation expense, totaling \$2,387,000 in 2002 and \$2,642,000 in 2001, is allocated to the various activities based on Usage

Revenue and Expense Recognition - Income from membership dues, subscription fees, magazines and publications are deferred and recognized over the periods to which the specific types of income relate. Revenues related to continuing education programs, engineering meetings and displays are deferred and recognized in the period when the programs are held. Expenses related to such activities are also deferred as prepaid expenses and recognized in the period when the programs are held.

Income Tax Status - SAE is exempt from federal income tax under Section 501(c)(3) of the Internal Revenue Code. However, income from certain activities not directly related to the SAE's tax-exempt purpose such as advertising revenue is subject to taxation as unrelated business income. At September 30, 2002 and 2001, there were no federal income taxes provided as business activities unrelated to exempt purposes resulted in no taxable income in those years. In addition, SAE qualifies for the charitable contribution deduction under Section 170(b)(1)(A) and has been classified as an organization that is not a private foundation under Section 509(a)(I).

<u>Reclassifications</u> - Certain accounts in the prior-year financial statements have been reclassified for comparative purposes to conform with the presentation in the current-year financial statements.

Concentration of Credit Risk - Financial instruments which potentially subject the organization to concentrations of credit risk consist principally of marketable debt and equity securities and trade receivables. The organization's temporary cash investments are greater than the \$100,000 insured by the FDIC but are maintained by creditworthy, high quality financial institutions. The organization holds bonds and notes issued by the United States government and financially strong corporations. By policy, these investments are kept within limits designed to prevent risks caused by concentration. Credit risk with respect to trade receivables is limited because SAE deals with a large number of customers in a wide geographic area. As of September 30, 2002, SAE had no significant concentrations of credit risk.

#### 3 INVESTMENTS

At September 30, 2002 and 2001, investments were as listed below:

	2002		20	01
Cos \$(00)		Market \$(000)	Cost \$(000)	Market \$(000)
U.S. Gov't and U.S. Gov't				
Agency Bonds\$ 2,7	788	\$ 2,852	\$ 3,325	\$ 3,378
Corporate Bonds	515	11,714	12,808	12,862
Corporate Stocks	768	14,870	21,021	18,129
Money Market Funds	904	904	1,198	1,198
Certificates of Deposit	29	29	29	29
Insurance Contracts	-	-	578	578
Total Investments\$35,1	104	\$30,369	\$38,959	\$36,174

The following schedule summarizes the investment return and its classification in the Statements of Activities for the years ended September 30, 2002 and 2001:

	Temporarily					
	Unrestricted Restricted		tricted	Total		
	_	\$(000)	\$(	(000	\$1	000}_
2002						
OPERATING ACTIVITIES:						
Interest and Dividend Income	\$	55	\$	-	\$	55
NON OPERATING ACTIVITIES:						
Interest and Dividend Income	\$	1,077	\$	106	\$	1,183
Realized Gains (Losses)		(2,668)		(387)	(	3,055}
Unrealized Gains (Losses)		(1,950)		-	(	1,950)
Subtotal Investment Return	–	(3,541)		(281)	(	3,822}
Over-Allocation		(594)		594		-
Total Investment Return from						
Non Operating Activities	\$	(4,135)	\$	313	\$ (	3,822)

<u>2001</u>	Unrestricted \$(000)	Res	porarily tricted (000)		otal 000}
OPERATING ACTIVITIES:					
Interest and Dividend Income	\$ 202	\$	-	\$	202
NON OPERATING ACTIVITIES:					
Interest and Dividend Income	\$ 1,277	\$	131	\$ 1	.408
Realized Gains (Losses)	(1,049)		3	(1	,046
Unrealized Gains (Losses)	(4,276)			(4	,276)
Subtotal Investment Return	(4,048)		134	(3	,914)
Over-Allocation	(206)		206		_
Total Investment Return from					
Non Operating Activities	\$(4,254)	\$	340	\$(3	,914)

Investment returns from operating activities are comprised of returns included in SAE's liquidity investment fund, which are included in the accompanying Statements of Activities as part of other products and services.

#### 4 PLEDGES RECEIVABLE (PROMISES TO GIVE)

Pledges of contributions (or promises to give) have been classified as unconditional Unconditional promises to give at September 30, 2002 and 2001 are as follows:

		2002 (000)	2001 (000)
Receivable in less than one year	. \$	811	\$ 543
Receivable in one to five years		286	362
Total unconditional promises to give	. –	1,097	905
Less discounts to net present value		5	16
Less allowance for uncollectible promises to give		100	-
Net unconditional promises to give	. \$	992	\$ 889

#### 5 EMPLOYEE BENEFIT PLANS

Defined Benefit Pension Plan

SAE has a noncontributory defined benefit pension plan covering substantially all employees of SAE and PRI. Pension expense amounted to \$1,275,000 and \$780,000 for the fiscal years ended September 30, 2002 and 2001, respectively. The benefits are based on years of service and the employee's final average compensation, as defined, during the last ten years of employment. SAE's funding policy is to fund amounts on an actuarial basis, which complies with FRISA.

Net periodic pension costs charged to expense for fiscal years 2002 and 2001 included the following components:

_1		2001 S(000)
Service cost - benefits earned during the period\$	1,332	\$ 1,190
Interest cost on projected benefit obligation	1,762	1,503
Expected return on plan assets	(1,766)	(1,840)
Net amortization and deferral	(53)	(73)
Net periodic pension expense\$	1.275	\$ 780

Also, an additional expense of \$940,000 was incurred as a result of enhanced termination benefits offered under an early retirement window, which is accounted for in the Non operating section of the Statement of Activities. In addition, a reduction in work force occurred in April 2002 that triggered curtailment accounting. The result was a \$592,000 reduction in the accumulated unrecognized loss, but this had no immediate impact on the Statement of Activities.

#### **Notes to Financial Statements**

For the Years Ended September 30, 2002 and 2001

#### EMPLOYEE BENEFIT PLANS (Continued)

The following table sets forth the funded status of the pension plan as of July 1, 2002 and

	2002	2001
_	\$(000)	\$(000)
Actuarial present value of		
accumulated benefit obligation:	18,129	\$ 17,162
Projected benefit obligation		\$ (22,996)
Plan assets at fair value	19,322	22,387
Plan assets (deficit) in excess of projected		
benefit obligation	(3,310)	(609)
Unrecognized net (gain) loss	2,480	2,068
Unrecognized net asset at July 1, 2002 and 2001		
being amortized over remaining five (5) years	(366)	(440)
Prepaid (accrued) pension costs	(1,196)	\$ 1,019

The weighted average assumptions used in determining the net periodic pension costs and reconciliation of funded status as of September 30, 2002 and 2001 is as follows:

-	2002	2001
Discount rate Long-term rate of return	7.5% 8.0%	7.5% 8.0%
Average compensation increase	4.75%	4.75%

#### Group Tax Deferred Annuity Plan

SAE also has a group tax deferred annuity plan qualified under Section 403(b) of the Internal Revenue Code. The plan covers all employees. Employees may make voluntary matched and unmatched contributions. Employees not entitled to full benefits are not eligible to receive matching contributions. Employees may make voluntary matched contributions in a range from 1% to 6% (subject to maximums allowed by the Internal Revenue Code) and SAE will match up to 100% of the contributions based on the employee's years of service. Employee contribution was \$604,000 and \$594,000 for the years ended September 30, 2002 and 2001, respectively. Employees are immediately vested in all contributions but withdrawals are subject to plan withdrawal and distribution rules.

SAE has established the SAE Employees and Retired Employees Beneficiary Association, which is exempt from federal income tax under Section 501(c)[9] of the Internal Revenue Code. The Beneficiary Association provides a means of accumulation and distribution of certain welfare plan benefits including benefits after retirement. The contributions to the Beneficiary Association are determined by reference to insurance premiums and estimated costs determined by SAE's independent outside actuary. SAE's contributions were \$59,000 and \$70,000 for the years ending September 30, 2002 and 2001, respectively.

Automotive Manufacturing Conference and Exposition
In November 1994, SAE purchased the AMCE Conference (formerly the IPC Conference) from
the Engineering Society of Detroit for \$\frac{4}{5}\$, 4000,000. SAE is amortizing the cost of acquiring the
AMCE Conference over eight years. In 2002, due to the conference no longer being in
existence, the remaining balance was written off. Amortization expense amounted to
\$1,000,000 and \$500,000 for the years ended September 30, 2002 and 2001, respectively.

International Body Engineering Conference
In June 2000, as part of the IBBC acquisition, SAB is continuing to amortize the cost of the
conference over the original five year period; amortization expense for the years ended
September 30, 2002 and 2001 amounted to \$258,000 each year.

As of September 30, 2002, SAE has a \$2,000,000 line of credit with a bank to be drawn down upon as needed, with an interest rate of 1.0% above the LIBOR rate. As of September 30, 2002, no amount has been drawn down. The line is secured by all deposits, investments and receivables maintained by SAE.

#### 8 LONG-TERM DEBT

As of September 30, 2002 and 2001, long-term debt was comprised of the following amounts due to sellers under IBEC's Purchase Agreement that was assumed by SAE in 2000:

	2002 \$(000)	2001 \$(000)
Asset portion of the balance due; payable in equal annual installments of \$150,000 through December 2001	.\$ -	\$ 150
Consulting services rendered and covenant not to compete portions of balance due; payable in equal annual installments of \$150,000 through		
December 2001		150
Total Long-Term Debt		300
Less imputed interest @ 6.99% (applicable Federal interest rate as of July, 1997)		20
Net Long-Term Debt	.\$ -	\$ 280

#### 9 SPLIT-INTEREST AGREEMENT

During 1998, the SAE Foundation received a \$300,000 charitable gift annuity, which calls for annual annuity payments totaling \$23,700 for the term of the donor's natural life. The present value of estimated future payments to the donor, which totals \$201,000 using a discount rate of 1.5% and applicable mortality tables is included in the accompanying Statements of Financial Position.

#### 10. temporarily restricted and permanently restricted net assets

Net assets restricted by donors as of September 30, 2002 and 2001 provide support for the following purposes

	20	02	20	01
Re	mporarily estricted \$(000)	Permanently Restricted \$(000)	Temporarily Restricted \$(000)	Permanently Restricted \$(000)
Futures Fund		\$ 433	\$3,570	\$ 433
Awards and Recognition Fund Engineering Activity Support		1,019 104	560 2	1,026 104
Totals	\$4,354	\$ 1,556	\$4,132	\$ 1,563

#### 11 OPERATING LEASES

SAE has noncancelable operating leases, primarily for off-site office space, that expire at various dates through September 30, 2006. Those leases generally contain renewal options and require SAE to pay all executory costs such as taxes, maintenance, and insurance. Rental expense for those leases amounted to \$433,000 for the year ended September 30, 2002.

Future minimum lease payments under operating leases, which have remaining terms in excess of one year as of September 30, 2002, are:

Year Ended September 30,	Am \$(	ount 000)
2003		426 436
2006 2007		670

The SAE Foundation is organized as part of the Society of Automotive Engineers, Inc. The SAE Foundation was created to facilitate financial contributions from members and others to provide an additional source of income, beyond those sources normally available to SAE, for activities in support of SAE's Purpose, Missions, and Goals. The Foundation has also adopted a Financial Management Policy so that the Foundation can maintain fiscal stability and viability, be self-sustaining and have the financial competency to meet its obligation to provide the required funding for programs as well as to pay for its fund raising and administrative costs.

The Foundation operates under the direction of a Board of Trustees, with administrative support provided by the SAE Executive Vice President, and reports directly to the SAE Board of Directors. The Foundation conducted fund raising activities that cost \$327,000 for the year ended September 30, 2002.

The Service Technicians Society (STS) is organized as an unincorporated society within SAE, and has its own group of members. STS was created to advance the skills and education of service technicians; encourage high ethics and performance; inspire professionalism and excellence in the mobility service inchinotary; disseminate mobility service technology information; foster communication and cooperation among service technicians and other professionals worldwide; and serve the public's need for environmentally responsible, safe and efficient mobility systems. STS operates under the direction of a Board of Governors with administrative support provided by the SAE Executive Vice President and receives oversight from the SAE Board of Directors.

#### 14 CONTRIBUTED SERVICES

SFAS No. 116 requires contributed services to be recognized if the services received create or enhance nonfinancial assets or require specialized skills, are provided by individuals possessing those skills, and would typically need to be purchased if not provided by volunteers. SAE receives such services from numerous members who volunteer to serve on technical committees that are responsible for developing, reviewing, revising and updating technical standards for the ground vehicle and aerospace industries. The value of these services was calculated as \$5.337,000 and \$6.285.000 and for the years ended September 30, 2002 and 2001, respectively, and is included in the accompanying Statements of Activities as revenue and expense.

#### 15 RELATED PARTY TRANSACTIONS

SAE is related to PRI but their affiliation does not meet the criteria requiring consolidation in the accompanying financial statements.

PRI leases office space from SAE under an operating lease that expires December 31, 2002 unless thirty days notice of cancellation or modification is provided by either party to the other.

As of September 30, 2002 and 2001, SAE's financial statements reflect the following balances and transactions with PRI:

	2002 \$(000)	2001 \$(000)
Accounts receivable	\$ 65	\$ 53
Service fees revenue	235	216
Rental income	123	116

SAE Foundation - Canada

SAE is related to SAE Foundation-Canada, but their affiliation does not meet the criteria requiring consolidation in the accompanying financial statements.

As of September 30, 2002, there was a \$235,000 liability to SAE Foundation Canada in the accompanying financial statements, which included accrued interest of \$20,000.

#### 16 CONTINGENT LIABILITIES

<u>SAE Sections</u>
While the funds and accounts of Society Sections are not included in the accompanying financial statements, the Sections Board minutes do not disclose any major potential liability to SAE from Section's activities.

#### 17 SUBSEQUENT EVENT

On November 21, 2002, SAE settled a claim that arose prior to September 30, 2002 for \$165,000, and accordingly, this amount plus additional attorney fees have been included in the accompanying financial statements.

#### **Raymond A. Morris, CAE**

Executive Vice President & Secretary

#### **Reed Smith**

Legal Counsel

#### Cohen & Grigsby, P.C.

Legal Counsel

#### **Salomon Smith Barney Inc.**

Investment Counsel

#### **Oppenheimer Capital Corporation**

Investment Counsel

#### **INVESCO – National Asset Management**

Investment Counsel

#### **Roxbury Capital Corporation**

Investment Counsel

#### **Bowling Portfolio Management**

Investment Counsel

#### **Stelmack Dobransky & Eannace**

Auditors

## William M. Mercer, Inc.

Actuaries-SAE Pension and Beneficiary Association Programs and Compensation Consultants



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