

Advancing ASHRAE Technology And Our Future

By Lee W. Burgett, P.E., 2005–2006 ASHRAE President

The Chinese have a proverb, “when you drink the water, remember the spring.” Everyone in our industry drinks the water of ASHRAE’s technology every day. Yet, not all appreciate its source. It comes from you, the volunteers that comprise this great organization. You are the ones that make it possible for ASHRAE to be the leader, and for that you deserve a well-spring of gratitude.

ASHRAE is a unique technical organization. We come together as professionals in our fields not simply to promote our own development and success, but to promote a public good

that benefits society as a whole. We do it by developing and promoting technology, enhancing productivity, improving health and safety in the built environment, and setting professional standards

that are a model of excellence around the world.

As we look to the recent past and marvel at ASHRAE’s accomplishments, it gives me confidence that we can tackle the significant opportunities ahead of us, and that we can count on your continued dedication.

As we discuss the theme for the next year, and review opportunities that lie ahead, I want to be sure that the cross-cutting emphasis is clear:

- We need to celebrate our successes, and acknowledge the volunteers that make it possible;
- We need to deliver on our responsibilities to the public, our members and our customers and clients; and
- We need to maintain a culture of continuous improvement in all of our endeavors.

About the President

Lee W. Burgett, P.E., Fellow ASHRAE, serves as consultant to Trane, a business of American Standard Companies, and others, following his retirement from Trane as vice president—new ventures.

He served on the ASHRAE Board of Directors as president-elect, treasurer, vice president and director-at-large.

He was chair of the Finance Committee, Members Council, the Board Policy Committee for Standards, the Standards Committee, the presidential ad hoc committee on health impacts in standards, Technology Council and Publishing and Education Council. He is an ASHRAE Distinguished Service Award recipient.

Keeping these simple goals in mind—celebrate, deliver and maintain—will enable us to carry out the theme: *Advancing ASHRAE Technology and Our Future*.

Our opportunities are twofold. One is internally focused, the way we carry out our mission. The other addresses the products we deliver to those we serve—our profession and the public.

Again, let me emphasize something that stays top-of-mind as I discuss these opportunities.

Never forget that our success as we move forward will be built upon ASHRAE's most vital asset, *our volunteers*. No amount of organizational gymnastics or pontification from the dais will substitute for the real work and commitment of our volunteers. Yes, I want to thank you for a job well done, but also to remind you that we cannot rest.

Several factors are coming together, offering a great opportunity (and obligation) for ASHRAE. The breadth of issues has never been wider (from mold to energy conservation), and the level of need has never been greater. At the same time, ASHRAE's ability to respond has never been better, and we have a wide range of advancing technologies at our disposal.

Now, let's drill down a bit on the internal issues facing ASHRAE. There are three on my agenda today: our standards policies, technical outreach opportunities, and the role of strategic research.

As we have been considering proposals for revision of our standards policy, the debate sometimes has been contentious. We need to come to consensus and move on—hopefully at this meeting in Denver. In any event, a number of actions appear to be ready for prime time. It is time to engage in the development of several “best practice” documents that parallel our current code intended/minimum standard of care standards.

We need a strategy that improves our ability to advocate the code adoption of ASHRAE standards, and we need to reach out to the model code community to collaborate in incorporating our standards in codes.

We are implementing several changes to streamline our standards development procedures. Yet, we must also empower the Standards Committee to set the tone for implementing other ways of streamlining the process.

On the issue of technical outreach, one of the most exciting areas of opportunity involves international standards development in countries such as China and India.

In August 2004, a workshop was held in Beijing on U.S. and Chinese standards. As reported in an issue of the Air-Conditioning and Refrigeration Institute's publication, *Koldfax*, “Chinese participants made it very clear that standards and certification are essential elements of China's national manufacturing and

trade policies. In a drive to quickly reform its standards/certification systems, China is reviewing the world's most developed standards for best practices.”

The article also said the Chinese “are asking standards developers to demonstrate the utility of their standards as models for Chinese standards and certification programs. They are looking for input to revamp their system.”

Other organizations are already in the “standards game” overseas with most having agreements in China. We know that manufacturers want to level the playing field, and ASHRAE has an interest in promulgating high-profile standards. These opportunities will be explored more fully this year.

The last internally focused issue, strategic research, offers an enormous opportunity to further relevant science and develop new technologies—primarily through our proposed strategic research plan. This plan will help ensure that ASHRAE research is meeting the needs of our members, the industry, and the public.

The plan, which has already been discussed by the Board, centers on the concept of sustainability or what we define as “maximizing the effectiveness of resource use while minimizing the impact of that use on the environment.” Here are a few examples of what we hope to accomplish through successful research:

- Promote energy conservation;
- Develop economically viable applications of renewable energy;
- Increase workplace productivity; and
- Develop methods that allow designers to accurately and confidently model a building in virtual reality, anywhere in the world in no more than one week's time by 2010.

The proposed plan contains some innovative and aggressive goals. The task now is to execute the plan as quickly as possible. And, ASHRAE must proactively reach out to other organizations that share these goals and are willing to collaborate.

Let's shift gears here and move away from the discussion on how we might adapt *internally* to better meet our organizational mission, and focus instead on the *social impact issues* where we can make our most significant impact. Three key issues, in my mind, deserve special attention: energy conservation, indoor air quality, and the broader issue of sustainability.

Certainly, one of the most important issues, based on our strengths, is energy conservation. The pressures on world economy are significant as oil prices skyrocket and dependence on imported oil grows. As an example, when the ASHRAE committees were developing the 2004 versions of Standards 90.1 and 90.2, the average price of a barrel of oil was around \$20.



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Now that same barrel sells for something north of \$50; the 2007 versions of these standards must reflect this new reality. The project committees will be challenged to develop consensus among the varied interests as to how best to achieve greater energy conservation.

So, we know the importance of energy efficiency and conservation. What more can we do?

An article undergoing review for *ASHRAE Journal* outlines some of the possibilities. The authors note opportunities exist for energy savings in all areas of consumption. So what barriers might hold us back? They found a range of reasons that include technical, economic, psychological, public policy and other factors.

So what role can ASHRAE play? It looks like energy efficiency and conservation, including increased employee productivity are key areas for us. We also must continue the emphasis on the *Advanced Energy Design Guide* series. Work will soon begin on a guide for small retail businesses, with collaboration from the U.S. Green Building Council, the American Institute of Architects and the Illuminating Engineering Society of North America.

The second social impact issue is indoor air quality. People have come to expect that they will have comfortable, productive and healthy indoor environments. For example, a report from the World Health Organization several years ago stated that everyone has a right to healthy indoor air quality. It's easy for them to make that declaration, but we know that delivering on this "right" will most likely come from ASHRAE.

We also know that healthier office workers are more productive. Experts may disagree on how best to quantify those benefits, but everyone agrees that working in an indoor environment that is healthier and safer not only improves the quality of life for those employees but it also increases the value they provide employers.

On another point, more than 17,000 people watched ASHRAE's recent satellite broadcast on mold, so it's safe to say that humidity and moisture are also huge concerns to our members and our industry.

What else can we do to improve indoor air quality? We can develop better IAQ metrics, support research that relates IAQ and productivity, and simplify Standard 62.1 to the extent that is practical.

Sustainability is the third social impact issue, and it serves as an umbrella covering a variety of disciplines. Within the building industry a growing recognition of the impacts of its activities and this realization is changing the entire ecosystem of the industry. Everything, including the design, construction, operation, maintenance, reuse and demolition of buildings is under reexamination. What is the goal? To better address the environmental and long-term economic consequences of the built environment. ASHRAE needs that same level of awareness and reexamination.

Our Society has already taken a strong stand on this issue, but much more needs to be done. In 2002, the Board com-

mitted ASHRAE to supporting "building sustainability as a means to provide a safe, healthy, comfortable indoor environment while simultaneously limiting the impact on the earth's natural resources."

ASHRAE has also been strong in energy conservation. Our standards are employed around the world as part of government regulations, and are referenced in building rating systems such as LEED® developed by the U.S. Green Building Council. We have a recent publication, the *ASHRAE GreenGuide*, which provides an overview of the broader subject with reference to other works. This is a good beginning, but my sense is that we can do a great deal more to provide the leadership and the technology necessary for a sustainable future.

Let me conclude by highlighting just a few of the many accomplishments of our dedicated volunteers. We recently published revised versions of most of our high profile standards that impact building codes around the country. Collaborating with others, we wrote the first in a series of *Advanced Energy Design Guides* in less than a year. Our technical committees worked hard to update and improve our flagship Handbook, *Fundamentals*. Our volunteers wrote a record 76 articles for *ASHRAE Journal*, sharing their expertise for readers around the world. The list goes on.

But, there's also much that still needs to be done if we are to reach our obligations as professionals and as guardians of the environment. We shoulder these obligations for ourselves, our customers, clients, and the general public.

ASHRAE, in addition to being a world-class technical organization, serves as the structure in which its individual members can meet their social aspirations and responsibilities. This selfless commitment of ASHRAE volunteers delivers an enormous social benefit to mankind from the use of ASHRAE technology. Our chapters also play a role by featuring the work of these volunteers in their programs, and by encouraging their members to join technical committees.

If we are to meet our obligations in the future, we must move forward on many fronts. We need to:

- Initiate the process of developing "best practice" documents as companions to code intended ASHRAE standards;
- Develop a roadmap for ASHRAE's involvement in sustainability in the built environment;
- Accelerate the development of the complete advanced energy guide series;
- Expand the adoption of ASHRAE standards into code through advocacy and outreach to model code groups; and
- Maintain a culture of continuous improvement.

ASHRAE needs more than your agreement on these points, we need your commitment. With it, I am confident that we will remain true to our primary mission while recognizing the valuable time of our volunteers. And we *will* do this with the same high degree of integrity, honesty, and professionalism that have become the hallmark of ASHRAE's legacy.

This we do for ASHRAE and our future.

Thank you. ●