

**The Role of the U.S. Department of Energy's Industrial Assessment
Centers in Meeting the Energy and Environmental Demands of
America's Industrial and Commercial Enterprises in the 21st Century**

Written Testimony Of

Malcolm E. Verdict, C.E.M

Associate Director, Energy Systems Laboratory

Texas A&M Engineering Program

Texas Engineering Experiment Station

College Station, Texas 77843-3581

Before The

Subcommittee on Energy and Environment

House Committee on Science and Technology

September 25, 2007

The Role of the U.S. Department of Energy's Industrial Assessment Centers in Meeting the Energy and Environmental Demands of America's Industrial and Commercial Enterprises in the 21st Century

Chairman Lampson, Ranking Member Englis, and Distinguished Members of the House Subcommittee on Energy and Environment:

I thank you for the opportunity to testify on the U.S. Department of Energy's (DOE) Industrial Assessment Centers (IACs), which provide technical assistance for small and medium-sized manufacturers and industrial facilities utilizing university faculty and students. My name is Malcolm Verdict and I appear before you today representing the Texas Engineering Experiment Station in College Station, Texas.

The Texas Engineering Experiment Station (TEES), within the Texas A&M Engineering Program, is a statewide engineering research agency of the State of Texas, serving industry in our region while educating over 9,000 undergraduate and graduate engineering students annually. TEES has a long history of partnering with industries, communities, and other academic institutions to provide practical solutions that help improve the quality of life, promote clean economic development, and enhance the nation's educational systems. We also promote new technology education and investigate problems in energy, renewables and the environment.

Texas A&M Engineering's strong commitment to energy efficiency is voiced at all levels, especially at the top. The Vice Chancellor for Engineering, Dr. G. Kemble Bennett, recently remarked that efficient energy use must be a national priority and that university educated energy engineers have a major role to play. Programs like the IAC produce highly qualified energy engineers with a conservation mindset who can hit the ground running to save energy for the nation's manufacturers and others.

Congress showed much forethought and wisdom in creating this program in 1976 after the first oil supply disruption, which some of us in this room can still vividly remember. The IAC concept embraced at that time is still relevant today as the nation faces even greater energy and environmental challenges. The good news is that with today's clean energy technologies, combined with the expertise and dedication of the graduate engineers from the IAC program, our nation is even better equipped to meet these challenges than when this program first began. The IACs have been a critical component in improving energy efficiencies and providing cost savings to thousands of industrial firms, while at the same time, training hundreds of new, dedicated energy efficiency

- Facilitating real-world experience for students analyzing industrial processes who are highly sought after upon graduation, and
- Creating valuable new industrial partnerships for participating universities in their energy engineering programs.

According to DOE, 38 different universities have participated in the IAC program since its inception and 26 are currently participating. The program name was changed from the original Energy Analysis and Diagnostic Centers (EADCs) to the current name to reflect its broader mission. The DOE field manager, Rutgers University, maintains a wealth of program and applied energy conservation technology information available online in a searchable database by technology, location, paybacks, and types of participating facilities (www.iac.rutgers.edu).

Illustrative examples of notable IAC program successes include [Source DOE website]:

- 13,550 assessments have been conducted as of mid-September 2007.
- Participating facilities have saved \$55,000 per year on average. Payback on implementation averages only 12 months, and the savings keep adding up, year after year.
- Texas A&M recommendations have resulted in local manufacturers spending over \$21 million to implement projects saving \$26 million annually.
- U.S. companies have saved more than \$700 million through efficiency and productivity improvements.
- Enough energy has been saved to power the city of Boston, MA for one year.
- More than 1.5 million industry jobs have been created and maintained in the United States.

The Texas A&M Industrial Assessment Center has performed over 500 assessments in companies such as bakeries, print shops, machine shops, light manufacturing, and chemical, petroleum and wood product industries. The Texas Tile Manufacturing Company in Houston, Texas is a good, recent example of the many benefits this program provides its clients. With high energy prices, inefficient energy practices, increased foreign competition and a location

Although the Industrial Assessment Centers have made significant, long-term contributions to industry by reducing energy use, pollution and energy costs, and providing critical energy engineering skills, it has not achieved its full potential.

Program limitations include:

- Program management continuity and resources have been inconsistent.
- Participation of only 26 universities leaves some areas of the nation underserved.
- The program fails to address other viable target audiences such as medium-size commercial buildings and federal buildings and industrial processes.
- The program does not include an energy research component, which limits opportunities for university faculty and student educational activities.
- There is no clear charter to leverage resources through cost-sharing for assessments and for partnering with others.
- The program does not require the distribution of information on financing resources and local engineering expertise required to implement more complex recommendations.
- Program success metrics do not incorporate the importance of the intrinsic, long-term value of training our nation's future energy engineers.

Although it has been very successful, the IAC Program is not achieving its full potential. Having been around 32 years, it has naturally gone through numerous re-organizations and managers within DOE. Within the last 10 years, the original IAC program managers have all retired and new internal champions have not emerged. Also, no official mechanism exists for external feedback on the IAC program.

The small number of participating universities leaves some areas of the nation underserved. Existing resources do not come close to meeting demand. For example within the first four weeks, the Texas A&M IAC had applications for all its available assessment slots for the coming year. Also, there is no mechanism for leveraging IAC funds with other resources such as utility efficiency and state energy programs which also target industrial end users.

- Expanding the geographic coverage by authorizing centers in all 50 states and territories where practical and increasing field management resources,
- Providing an information clearinghouse on qualified engineering firms, utility programs and rebates, state energy office industrial programs and financial resources as part of the assessment reports,
- Increasing the educational effectiveness through applied research activities such as regularly involving IAC students as summer interns at national laboratories and involving IAC faculty and students in other DOE funded industrial and commercial building research initiatives, and
- Authorizing adequate resources to implement an expanded IAC scope.

We are aware of a draft Subcommittee bill entitled the "Industrial Energy Efficiency Act of 2007", which addresses many of the items covered in this testimony. We applaud your efforts to improve upon the IAC program which has served our country extremely well.

In conclusion, the IACs have been highly successful at helping reduce industrial inefficiencies, pollution and providing cost savings while providing critical education to the nation's engineering students. However, the program is not without its limitations. After 32 years of success, it is now time for improvement to meet tomorrow's energy needs. The current DOE program and the required information provided to industry should be expanded, student educational opportunities should be increased, and the intrinsic, long-term value of the educational benefits should be more fully recognized.

Mr. Chairman and distinguished members, I thank you again for the opportunity to highlight the importance of the IAC program to our nation's energy future and to share some ideas to increase its energy, environment and education impacts. I would be glad to respond to any questions you may have.