

STATEMENT FOR THE RECORD

By

THE NATIONAL OILHEAT RESEARCH ALLIANCE

Before the

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

SUBCOMMITTEE ON ENERGY

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Good morning Chairman Bingaman, Chairwoman Cantwell, and Ranking Members Murkowski and Risch. My name is John Huber, and I am President of the National Oilheat Research Alliance (NORA). I greatly appreciate the opportunity to testify before you today regarding NORA, its research, education, and training accomplishments and goals, and to respond to any concerns you may have regarding the General Accountability Office's (GAO) recent review of our operations.

As you know, the National Oilheat Research Alliance Act of 2000 authorized the heating oil industry to conduct a referendum to create NORA and to permit a small fraction of the cost of home heating oil to be set aside to fund important research and development, energy conservation, safety, training, and consumer education initiatives. This assessment is borne by the home heating oil industry and not consumers. Today 23 states participate in the program. Since its enactment, the Act has benefited millions of American consumers of home heating oil, and supported thousands of jobs, at no cost to the federal government. NORA has also benefited the approximately 50,000 individuals employed by the heating oil industry, the overwhelming majority of whom work for small local businesses in communities across the country. The industry provides secure, well-paying jobs, benefits, and pensions to its technicians, administrative workers, and other service personnel.

NORA's research, training, and education programs have ensured that consumers have access to lower cost, highly efficient equipment that operates safely. NORA began its operations in February 2001, and has operated continuously since then with the exception of two short time periods when operations had to be suspended pending reauthorization.

Today, I will provide you with a brief overview of NORA's research, education, and training activities to date and the fundamental principles that have guided NORA's operation since its inception.

Developing Next-Generation Technologies through Research

NORA has enabled significant funding to be devoted to improving the safety and energy efficiency of oilheating equipment. This has been of critical help to the industry, which is comprised of mostly very small businesses, with less than a dozen employees, that do not have sufficient resources to devote to R&D on their own.

Much of NORA's research and development work has been done in conjunction with the Department of Energy's (DOE) Brookhaven National Laboratory, expanding on prior work previously conducted by DOE. This partnership has been greatly valued by NORA. We continue to use Brookhaven's facilities and employees, who have brought their extensive training and knowledge to the Oilheat industry and have left the fruits of their research in the public domain for the benefit of all in the industry. Indeed, NORA's partnership with DOE is longstanding, having originated prior to its original authorization in 2000, when the Department hosted a workshop to develop a roadmap for Oilheat industry research activities, which was approved and funded by NORA at its first Board meeting. We revisited this roadmap in 2007 and developed additional thinking on how to improve the services and equipment available to Oilheat consumers.

In addition, NORA has undertaken several projects in partnership with the New York State Energy Research and Development Authority (NYSERDA). NORA has had Board members from NYSERDA, and NORA and NYSERDA have either jointly funded projects at Brookhaven, or NYSERDA has supported projects that NORA is conducting independently. Additionally, NORA and NYSERDA attempted to develop a joint liquid fuels research center together.

Increasing Energy Efficiency. A particular focus of NORA-sponsored research has been improvement of the energy efficiency of Oilheat appliances. First, NORA has developed highly efficient boilers and furnaces. In 2000, the top efficiency for oilheating equipment was 86. Today, consumers can purchase a furnace with 95 percent efficiency and a boiler with a rating of 93. Without this effort the tax credits provided by Congress last year for highly efficient equipment would not have been available to the millions of consumers who use Oilheat for their home.

Second, the industry and the researchers at Brookhaven National Laboratory have noted for many years that the efficiency ratings published by the Department of Energy do not properly reflect the efficiency of the combined heating and hot water systems common for oilheated homes. NORA contracted with Brookhaven National Laboratory to study this issue, and better assess the true heating efficiency of modern oilheated systems. This research provided key insights on how much fuel would be consumed by families using Oilheat, and what strategies were successful in improving overall efficiency. From this research, NORA developed a calculator to assist consumers in selecting the most efficient equipment for their home.

Lastly, NORA has worked to address the amount of heat that is often lost because it is vented into the outdoors. We are currently working on a project that would allow for near condensing appliances. It is possible that such a solution could provide an effective and economical method of raising efficiency with existing appliances.

Through these efforts, we have been a key factor in helping our customers reduce the volume of oil they use by significant amounts. In fact, research we have done indicates that in recent years, we are seeing decreases in consumption approaching 30 percent.

Utilizing Renewable Fuels and Power Sources. NORA has worked to develop an ASTM specification for biofuels, so that these renewable fuels can be used in heating equipment. As a way to reduce electrical use and also use the light energy from the burner, NORA is also conducting studies on the use of photovoltaics in the heating system that could generate power for the unit, and possibly for other appliances. Additionally, NORA is now working with the National Biodiesel Board to determine what level of biodiesel can be safely used in an Oilheating system, and what changes need to be made to a system that would allow it to use 100 percent biodiesel.

Fuel Storage, Safety, and Quality. NORA has worked with Brookhaven to study the fuel utilized in Oilheat appliances. While the fuel NORA uses is similar to diesel, it is stored differently, and is used differently than diesel. NORA did extensive research on fuel properties, the proper way to analyze the fuel, and appropriate measures to improve the fuel. This research was collected in a guide for Oilheat retailers. This research has been vital to the industry in improving the fuel they deliver to their customers.

NORA has also supported efforts within states to move aggressively to lower the amount of sulfur in heating oil. Sulfur has been an impediment to increased efficiency and economical heat exchangers. NORA is conducting a project to assess what new materials for more efficient heat exchange will become available with this new fuel.

The commitment to environmental safety and the proper storage of oil is a priority for NORA, the industry and consumers. NORA worked with manufacturers of tanks and the National Fire Protection Association to develop guidelines for the proper installation of tanks. This was translated into a tank installation and maintenance book, which was accompanied by a training curriculum and certification program. During the course of this work, NORA developed a working relationship with the Institute for Building and Home Safety, and we developed brochures for consumers on monitoring their tanks and ensuring they operate safely.

Additional research accomplishments of NORA's are detailed in the attached report.

Improving Training and Safety

The second leg of NORA's efforts as established by Congress is to improve training and safety. NORA has done this in many areas. There are approximately 20,000 service technicians in the industry. Prior to NORA, the type of training they received was inconsistent, often dependent on anecdotes, and did not focus on the means to improve comfort for consumers safely and efficiently. To respond to those challenges, NORA established a certification program.

Education has been one of the critical components of NORA since its inception. The NORA statute establishes that a goal of the funds is *to enhance consumer and employee safety and training*. Effective education is key to the implementation of new technologies. It also is essential to adopting procedures and methodologies that reduce accidents, and improve the safety of the product. Additionally, proper training is essential to the proper installation and maintenance of oilheating equipment. Failure to install equipment properly and to maintain it can lead to leaking tanks which can affect drinking water, it can impact whether the system operates effectively, and in extreme cases improperly installed heating equipment can result in physical harm or fatalities.

NORA's strategic plan has been to closely integrate research and development and education. First, all educational materials need to be verified as accurate. In many areas, common knowledge has been the guiding posts for education. NORA rigorously examines such claims to ensure they are true before adopting them in training materials. Second, in developing a research agenda, NORA evaluates whether the research or technology development will be field implementable. Developing technology that will not be acceptable to the industry or consumers does not benefit Oilheat consumers. Finally, NORA works to ensure that knowledge developed through research and development migrates into the field, where it benefits Oilheat consumers.

NORA utilizes a two tier system for education. Generally, all of the educational materials and programs are developed in a coordinated fashion at the national level, and the dissemination of the information, the labs for training technicians, and the actual training are conducted pursuant to the grants developed with the state organizations.

Investments in Industry Training and Related Materials. Prior to NORA there was no systematic method for coordinating various training entities and ensuring training materials for industry technicians are high quality and updated on a regular basis. One of NORA's initial goals was to develop training materials that are readable, accurate, and current. Prior to NORA, the industry had failed on each of these tests. The training manual for technicians was based on a 40-year-old book, it contained inaccurate and improper information, and had third and fourth generation photocopies as part of the text.

NORA developed a new training manual that is now the industry standard. This required each chapter to be written and reviewed by a technical committee, and then to be designed and have graphics developed. A manual which had been undergoing revision was redesigned in 2001-

2002 in an effort to modernize this resource as an interim step. However, in 2006, NORA began a more ambitious effort to remake the book from the ground up. This effort was completed early in 2008, when the book was released. This book has now been converted into the metric system and is also used by the Canadian oilheating industry.

NORA has also developed a number of video training programs for the industry. To date NORA has produced 16 videos. These videos include instruction on how to install tanks, customer service, installation and maintenance of controls, how to deliver oil safely, how to tune-up a burner, how to respond to a no-heat call, how to drive a retail truck, understanding efficiency and why it is important to be environmentally cautious when delivering oil. These videos are available to anyone, and NORA also distributed a copy of all of the videos and the textbook to the industry.

NORA has also produced “Heating Oil Storage Tanks, Guide to Quality Installation and Maintenance”. Research indicated that the primary problem with tanks and their failure was improper installation, and lack of maintenance. Thus, the industry was challenged to respond to this problem with a new way of doing business. It was determined that leaks or other issues from tanks were in many cases attributable to the industry installing tanks in accordance with their understanding of best practices, and not the requirements of the parties who had developed installation codes. To respond to that issue, NORA utilized the installation guides from the Steel Tank Institute and the National Fire Protection Association as the backbone for this book, and also included installation guides from each tank manufacturer. Additionally, NORA developed a method for systematically examining the tank at different times in the lifecycle of the customer owning the tank and in accordance with industry-recognized best practices. The development of this program was handled under a special allocation of the Board to respond to tank issues. The NORA Board then directed each of the state organizations to utilize these training programs in their state and to make this training available.

Lastly, NORA has developed an Advanced Training Manual. This book was completed in 2004 and was designed to educate technicians on the true efficiency of an appliance.

Implementation of Technical Education. Development and distribution of materials and is only the first step in a full implementation of a training regime. Technicians and owners must also understand and support expanded education. NORA has several strategies in place to further that effort.

First and most importantly, NORA has implemented a national certification program. In 2001, NORA took over the program that had been jointly developed by the Petroleum Marketers Association of America (PMAA) and the National Association of Oilheat Service Managers (NAOHSM). NORA certifies technicians at several levels and for several skill sets. Our introductory program is termed the bronze certification and is designed for new entrants to the industry. For more experienced technicians, we have a silver certification program, and for

technicians who have studied our Advanced Manual on efficiency, we have a gold certification. In addition to these core certifications, NORA also certifies technicians who have participated in our one-day tank training program. Additionally, we provide a certification for technicians who study the whole house heating system, and who have learned how to evaluate heat losses from a home and can help customers save energy.

Additionally, the certification program requires scoring tests, analyzing test results, and maintaining a test center. Responding to technician, company, and educator questions and issuing certifications, badges, and letters to technicians on a continuous basis is required. Nearly 18,000 participants have completed the certification program.

Additionally, NORA has participated in several forums in the industry and helped support a number of educational opportunities for managers and company trainers. These opportunities include a Train the Trainer program. Under this program, NORA and NAOHSM have hired outside experts to teach the art of teaching to trainers in the industry.

Expanding Training Outreach. NORA has also been responsible for developing and disseminating information to affiliated industries. These industries include plumbers and contractors, real estate agents, home inspectors, and tank installers. It also includes educating personnel in the industry on the facts about Oilheat and the progress that has been made to improve efficiency and improve its end use performance.

The state organizations affiliated with NORA develop and implement a number of educational programs. Since 2001, the types of activities in each state have been similar; the predominant variation is the amount of the budget invested in any single program. To accomplish this, the states have often provided scholarships or reduced fees for new entrants to the industry. While introductory training is critical, learning is a lifelong process. Thus, NORA encourages and supports continuing education classes for technicians. These will typically be 2-4 hour training sessions focused on a particular type of equipment with the goal of having the technicians understand the appropriate service requirements. These classes also include tank training, to ensure tanks are installed and operating safely.

NORA, through the qualified state organizations, has also conducted training for affiliated industries such as real estate agents, builders, plumbers, HVAC contractors, and home inspectors. Each of these individuals deal with heating oil customers sometime in the lifecycle of the home, and ensuring that they can recognize safe or unsafe equipment, efficient and non-efficient equipment, and the best ways to get value out of a heating system is critical to the Oilheat consumer.

Advancing Consumer Education

NORA has also invested significantly in consumer education. Over the past decade, Oilheat prices have fluctuated significantly, straining the limited household budgets of many Oilheat consumers. There were a number of reasons for these price increases, including the Y2K problem, increased consumption in China and India, Hurricanes Rita and Katrina, and the wars in Iraq and Afghanistan as well as commodity market volatility. Each of these factors placed significant upward pressure on prices, and bore negative consequences for consumers of energy products. To that end, NORA worked aggressively to educate consumers about what was causing the price increases and more importantly how they could lower their own prices.

Many customers who use heating oil have very inefficient heating systems. Many consumers have boilers that were converted from burning coal, and are thus very inefficient. Others have boilers and burners manufactured in the 1970's before the development of flame retention burners. Even boilers manufactured in the 1980's and 1990's can be inefficient compared to a modern boiler with a modern burner and advanced controls. During the high energy prices of the 2000's it was important to provide consumers options and advice on how they might be able to reduce their energy consumption and save precious household dollars. Encouraging consumers to look at new equipment thus was a strategic goal for the Alliance's consumer education expenditures.

Accountability and Transparency

NORA has made great efforts to ensure its operations are transparent and accountable to the Oilheat industry, the Department of Energy, and Congress. NORA publishes its budget annually, seeks public and Agency comment, and then transmits these documents to Congress for comment. We believe this improves the program's operation and provides an opportunity for NORA to interface with the appropriate agencies and improve the product we provide.

GAO Inquiry and Recommendations. NORA worked extensively with the GAO during the review/audit process. While there are certain aspects and conclusions of the report that we find to be either incomplete or inaccurate, the NORA Board has moved to adopt some of the common sense recommendations, and looks forward to working with the Committee in making the appropriate changes in the underlying statute in the reauthorization process for those changes that are beyond the scope of the Board.

GAO raised and evaluated a number of issues in their report. One area of concern was Board representation. As described to GAO, when the Alliance was being considered by Congress, it was anticipated that 24 states would be in the Alliance, and that there would be a Board representative from each of those states. However, during the founding of the Alliance, three states that Congress anticipated participating including, Alaska, Minnesota, and Michigan, did not hold a referendum.

GAO also identified several members who appeared to lack a lapse in service. These individuals provided affidavits indicating their service had been appropriately limited and Board minutes confirmed their service interruptions. We would acknowledge that the annual report issued by NORA, which was designed to show the leaders participating in NORA both in the year of issuance and the year of the annual report, lacked clarity. However, the limitation of service was fully complied with.

GAO also raised issues regarding the appropriate delivery of the budget and recommended that it be provided to multiple offices within the Department of Energy. The law requires the budget to be provided to the Secretary, which was complied with. Additionally, the budget is posted on the website, so it was easily and readily available to all offices within DOE. A similar issue was raised with the audit, which has been posted to the internet each year.

The GAO also raised a number of issues regarding lobbying activities by organizations with which NORA works. We would note that the statute places no limits on lobbying activities of organizations, but rather clearly directs that NORA funds shall not be used to affect legislation or elections. To ensure that this limitation is complied with, GAO recommended that NORA require anyone receiving grants or funds to stipulate that they have complied with the lobbying restrictions at the completion of the contract. This is similar to restrictions currently in other federal statutes. NORA has this restriction in its contracts, and now requires back end certification.

Conclusion

In conclusion, we believe NORA has played an instrumental role in bolstering the Oilheat industry – from improving training, safety, and consumer education to making critical advances in energy efficiency and other technologies. We believe the industry is best served by the continued operation and strengthening of NORA.

We thank you for conducting this hearing. The industry continues to stand willing to work with the Chairman and the Congress to improve the statute and the operations of NORA.