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U.S. DEPARTMENT OF LABOR
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U.S. SENATE**

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Mr. Chairman and Members of the Committee, thank you for the opportunity to provide the Department of Labor's perspective on the workforce challenges confronting the energy industry. Recognizing the importance of this sector of our economy to the Nation's overall global competitiveness, the Department of Labor has been actively helping the energy industry respond to the workforce challenges it faces.

The U.S. energy industry is undergoing a dramatic transformation as advanced technologies revolutionize the traditional methods of energy extraction and refinement. In addition, the renewable and alternative energy field presents a whole new set of opportunities for the industry that did not exist a decade ago. We recognize this transformation as critically important for our economy as a whole, and that a successful transformation requires a highly-skilled workforce. Therefore, we are working with the energy industry to understand their business processes, market dynamics, and skilled workforce needs.

Leaders in the energy industry, along with other high growth sectors of the economy, express the need for more highly trained and highly skilled workers in order to grow and be competitive in the years ahead. Most of the new jobs created today require at least some post-secondary training, whether it be a vocational degree or certificate, apprenticeship training, or a four-year degree from a college or university. However, the skilled workers that companies need

are becoming increasingly difficult to find. This is where the Department of Labor has an important role to play.

High-wage employment opportunities with established career pathways are awaiting American workers in the energy industry, but first, some key workforce challenges must be overcome. Now, and over the next few years, the public workforce investment system, private industry, the education system, and the entire energy community must work together to address the following challenges: the aging of the energy workforce and the lack of highly-trained workers in the pipeline to replace them; outdated misconceptions about careers in the energy sector; the lack of energy training and education programs due to elimination of programs during the recession of the early 1990s; the demand for workers with higher levels of science, technology, engineering, and mathematics skills; and the need for industry-recognized credentials and better career pathways for workers in the energy industry.

The Role of the Workforce Investment System

Currently, the Federal government invests over ten billion dollars annually in job training and employment assistance programs. The Employment and Training Administration (ETA) administers many of these programs, through the public workforce investment system, with a goal of preparing workers for jobs of the 21st century. The workforce system is an important resource that the energy industry can draw upon to secure a skilled workforce.

ETA has strived to build a “demand-driven” workforce system to provide America’s economic engine – businesses – with the highest quality workers possible, and to link the two together for their mutual benefit. This relationship allows businesses to be more competitive in the global economy and workers to live more productive and prosperous lives. Key to the

success of a demand-driven system is the workforce investment system's ability to respond to the needs of the labor market by partnering and working collaboratively with businesses, educators and trainers, and community leaders in a strategic effort to prepare workers for opportunities in high growth sectors of the economy. In recent years we have undertaken a series of initiatives to better do this, starting with the High Growth Job Training Initiative.

The President's High Growth Job Training Initiative

ETA began working to address the workforce challenges of the energy industry through the President's High Growth Job Training Initiative. Launched in 2002, this initiative is the cornerstone of the Department's efforts to create a workforce investment system that is demand-driven and balances the needs of America's workers with the demands of employers. Under the High Growth Job Training Initiative, ETA has partnered with 14 high growth industries and economic sectors, including energy, to evaluate their skill needs and ensure that workers are being trained with the skills these businesses require.

Through the High Growth Job Training Initiative, ETA has invested \$288,517,000 in 156 partnerships among employers, education programs, and the workforce investment system. Each project targets the skill and talent needs of high growth, high demand industries in our nation's economy and provides the resources necessary to develop the capacity to train workers in the skills demanded by the 21st century economy. By training workers with the skills employers want, more workers will obtain quality jobs that pay higher wages, while enabling employers to address their skill shortages and better compete in today's changing economy.

To better understand the workforce issues of the energy industry, in 2004 and 2005, ETA conducted seven forums for executives from all segments of the oil and gas industry, electric and

natural gas utilities, nuclear energy, and mining. These forums provided us and the workforce investment system with the opportunity to gain further understanding of the critical workforce needs of the industry and develop workforce solutions.

Our discussions with the energy industry in these forums identified several key workforce development concerns. First, a large percentage of current workers in the energy industry are nearing retirement. The average age of workers in the energy industry is now over 50, and the industry estimates that up to half its current workforce – more than 500,000 workers – will retire within 5 to 10 years. As experienced workers retire, they are difficult to replace because too few entry-level workers are equipped with the advanced skills required by today's technologically-sophisticated companies. Creative solutions are necessary to help experienced workers who will be retiring transfer their knowledge and skills to their replacements and to help new workers gain necessary skills as quickly as possible.

The situation is compounded by the problem that too few potential workers are interested in careers in the energy industry. Stereotyping of energy careers as low-skilled causes qualified workers, especially youth, to be unaware of the many highly skilled, well-paying career opportunities the industry has to offer.

An additional set of challenges arises because many training programs were reduced or eliminated during the downturn the industry experienced in the late 1980s and early 1990s. Programs have not expanded at the same rate that the industry's need has rebounded. Also, we know that employers in all sectors of the industry need workers who are more proficient than their predecessors in math, science, and especially, technology skills.

Finally, it was noted at the forums that too few industry-defined, portable credentials have been developed in the energy industry. Additionally, some energy occupations lack clearly

recognizable career ladders necessary for instilling a new perception that working in the industry is an attractive and viable long-term career choice.

Working from this foundation of information about the workforce challenges faced by the energy industry, investments were made under the High Growth Job Training Initiative to implement solutions to the identified challenges. Of 156 current investments under the initiative, 11 grants totaling \$27,093,668 have been awarded to help meet the workforce needs of the energy industry. One example is our investment with the State of Alaska's Department of Labor and Workforce Development. In order to meet the growing workforce demand in the energy sector, the State of Alaska, in partnership with education and industry partners, is directing training resources towards energy-related occupations while at the same time integrating vocational and technical education with skills training. A key component of this grant is also apprenticeship training - a training tool that has proven to improve job skill levels and workforce readiness across a number of industry sectors, including energy. To build upon the current investments, ETA anticipates announcing a Solicitation for Grant Applications targeting the energy industry under the High Growth Job Training Initiative later this year.

Community-Based Job Training Grants

Our work under the High Growth Job Training Initiative revealed a critical shortcoming in the workforce development capacity of many regions: many communities are not positioned to meet the training demands of our high growth industries because of limited training capacity and outdated curricula and training delivery systems. To address this need for expanded affordable, flexible education and training capacity in local communities across the country, President Bush established the Community-Based Job Training Grants program. The initiative provides grants

to help community and technical colleges train workers for jobs in high growth sectors through the use of community and technical colleges.

Due to their close connection to local labor markets, community colleges are well positioned to understand the intricacies of local economies and better prepare workers for occupations in these localized industries. To date, the Department has provided \$250,000,000 to 142 community colleges, One-Stop Career Centers and other entities under this initiative. A third round of Community-Based Job Training Grants totaling \$125,000,000 is currently under review by the Department and award announcements are expected soon.

Of the current investments, grants totaling \$20,405,604 have been awarded that focus on the energy sector. One of those investments is a \$1,998,885 grant to Montana State University at Billings to develop an industry-driven model for just-in-time training programs in the energy industry, including mining, oil and gas exploration and production, power generation, biofuels, bioproduct development, renewable resources and energy-related construction. The grant expects to train over 1,000 individuals for jobs in energy and establish an Energy Workforce Training Center that will focus on jobs in the energy industry and will support training programs and degrees that serve the developing biofuels sector.

Workforce Innovation in Regional Economic Development

Building on the principles of the High Growth Job Training Initiative and Community-Based Job Training Grants is the Workforce Innovation in Regional Economic Development Initiative, or WIRED. The WIRED Initiative is also answering the call for competitiveness by fostering innovation through regional workforce and economic development. Though global competition is often seen as a national challenge, it is actually at the regional level where

solutions must be developed and the challenges met. It is in regional economies where companies, workers, researchers, educators, entrepreneurs and government come together to create a competitive advantage and where new ideas and new knowledge are transformed into advanced, high-quality products or services.

WIRED focuses on labor market areas that are comprised of multiple jurisdictions within a state or across state borders. It seeks to help regions transform their workforce investment, economic development, and education systems to support overall regional economic growth by fostering collaborative partnerships among universities, businesses, government, workforce and economic development organizations, and other key regional partners. Many of the regions selected have been affected by global trade or Base Realignment and Closures (BRAC) activities, are dependent on a single industry, or are recovering from natural disasters. Under the WIRED Initiative, ETA has invested \$325 million and is providing expert assistance to 39 regions across the nation to implement strategies that will create high-skill and high-wage opportunities for American workers.

To date, 13 of the 39 WIRED Regions are focusing on the energy industry, including the Central New Mexico region. The regional initiative is led by New Mexico's Technology Triangle, an industry-driven non-profit regional development alliance affiliated with New Mexico Tech University. The alliance supports the growth of entrepreneurship, talent and innovation in the state's green manufacturing industries, including renewable energy, green building, aerospace and aviation, microelectronics, and optics. In cooperation with a broad array of stakeholders within and beyond the eight-county region, the alliance seeks to coordinate an inter-regional effort to stimulate entrepreneurship, advance the development of the technical workforce, and create a public policy environment that supports and rewards innovation.

An important element of the WIRED Initiative is the partnerships that ETA has developed with other Federal agencies. ETA has worked with 10 other Federal agencies, including the Department of Energy (DOE), to provide funding, technical assistance, and other support to the WIRED regions. Beginning in 2006, ETA began working with the national laboratories of DOE, including Oakridge National Laboratory and the National Renewable Energy Laboratory (NREL) to increase WIRED region access to Federally-funded technologies at Federal laboratories. Site visits at both locations led to increased discussion on how DOE and DOL can work together to share resources, experience, technology, information and infrastructure in solving our workforce challenges in the energy industry. Our partnership with NREL is particularly noteworthy because it is the only national laboratory dedicated to renewable energy and efficiency research and development. The assets and resources at NREL were shared with WIRED regions during a two-day institute, April 18 and 19, 2007, at which WIRED regional leaders were introduced to methods to increase industrial competitiveness, stimulate wealth creation and employment opportunities, foster public-private collaboration in technology development, and increase innovation, all of which are essential elements in today's "knowledge economy."

Additional Energy Initiatives

ETA has also undertaken a number of other initiatives to more fully understand the workforce development challenges of the energy industry and to ensure that the industry has highly skilled workers, including holding an Energy Skilled Trade Summit, utilizing apprenticeship as an important pipeline of workers into the industry, and launching a study on the workforce needs of the industry.

Energy Skilled Trade Summit

To address the workforce challenges faced by the Energy Skilled Trades sector, ETA, in partnership with the energy industry and the construction firms and labor management organizations that support it, embarked on another initiative to improve the pipeline of craftsmen and utility workers, with a focus on the Southeastern United States. To kick off the initiative, ETA convened an Energy Skilled Trades Summit in August 2007 in Biloxi, Mississippi, as part of the Southern Governors' Association meeting, hosted by Governor Haley Barbour. Additional key sponsors were the Nuclear Energy Institute, Edison Electric Institute, the American Petroleum Institute, and the Center for Energy Workforce Development (CEWD). Among the over 300 attendees were four Governors and 20 CEOs of major energy and construction firms. Summit participants discussed strategies to align Federal, state, and local resources to increase the supply of workers for high growth, high demand careers in the energy and construction industries, and began to develop state action plans for improving synergy between industry and the education, workforce, and economic development systems. ETA and industry leaders have pledged their continued support for this initiative.

Apprenticeship Programs

ETA administers the National Apprenticeship Act, which establishes the framework for registered apprenticeship programs. The apprenticeship model continues to use the time-tested method of learning on-the-job in combination with related technical and theoretical instruction in the classroom to train workers in skilled occupations. Apprenticeship is an industry driven system that develops employee skills, competencies, and knowledge in order to meet the

workforce development needs of business. Currently, there are over 900 active apprenticeship programs in energy industries, involving 5,900 apprentices in occupations such as power plant mechanic, boilermaker, line erector, and operating engineer. These numbers will continue to grow. As the energy industry builds new facilities and adopts new processes due to technological advances, the apprenticeship system works closely with program sponsors to adapt apprenticeship programs to keep pace with these changes.

Study of Energy and Mining Workforce Supply

The Energy Policy Act of 2005 directed DOE to enter into an agreement with the National Academy of Sciences to conduct a study on the availability of skilled workers in the energy and mining industries. Given our interest and expertise in workforce issues, ETA approached DOE and proposed to administer this study on their behalf. ETA is prepared to commit \$750,000 to the study, and is executing a Memoranda of Understanding with DOE to carry out this study. The Department of Interior is also interested in this issue and will contribute funding to the study. ETA will soon execute a procurement with the National Academy of Sciences to conduct the study, which we expect to be completed by next fall. This study will provide significant information about the availability of workers to meet energy and mining industry demands. In turn, this will help us learn about strategies on how to best meet those demands, thus contributing to securing the Nation's energy future.

Conclusion

In conclusion, Mr. Chairman, energy remains a critical driver of America's economic growth and competitiveness in the global economy of the 21st century. High-wage employment

opportunities with established career pathways are awaiting American workers in the energy industry. The programs and initiatives I have described will not only help address the structural changes the energy industry is facing, but they will provide a skilled workforce that can take advantage of the employment opportunities that exist in the industry. At this time I would be pleased to answer any questions that you or other Committee Members may have.