The Abdus Salam
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United Nations
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1962-34

Joint ICTP-IAEA School of Nuclear Knowledge Management

1 - 5 September 2008

Networking for Education & Training in USA and UK

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Draft Presentation

Networking for Education and Training in the U.S.

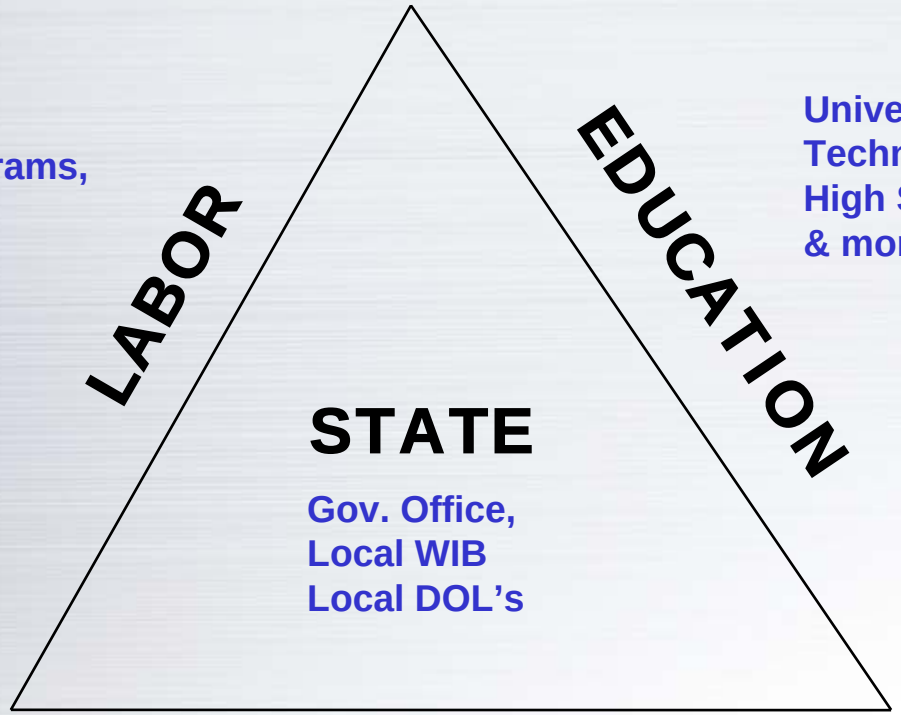
School of Nuclear Knowledge Management
Trieste, Italy
September 2008

Presentation by Ed Boyles

Contents

Education and Training Networking in the US

Unions,
Labor Councils,
Apprentice Programs,
etc.



Universities,
Technical Colleges,
High Schools
& more

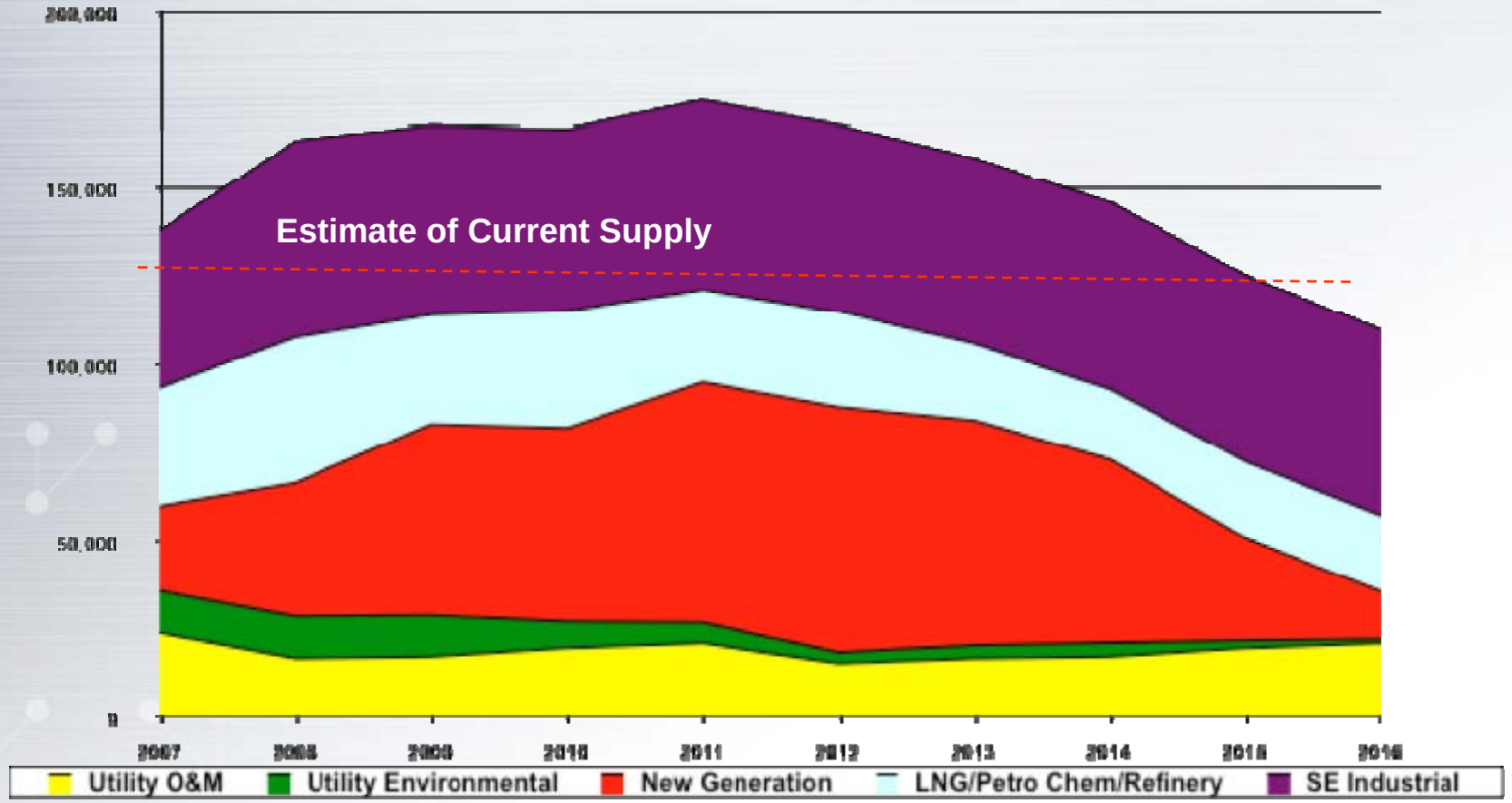
ENERGY INDUSTRY

Utilities, INPO, NEI, Contractors, etc.

Potential New Construction in Southeastern United States

- 29 to 30 nuclear units
- 16 coal fired units
- 26 gas turbines
- 35 combined cycle plants
- 3,500 miles of transmission lines
- Refinery capacity to expand by 1 million barrels a day

Southeastern U.S. Skilled Craft Demand



Networking – Industries & Universities

- Networking between industry and universities are not new
- Often a industry will partner with several selected universities
- Managers may serve on boards, advise on curriculum, provide funds for scholarships, etc.
- University student serve as interns to gain experience
- Universities provide access to qualified students – engineering, business, science, IT, etc.
- Universities develops curriculum/programs to meet industry needs
  - .

Networking – Technical College

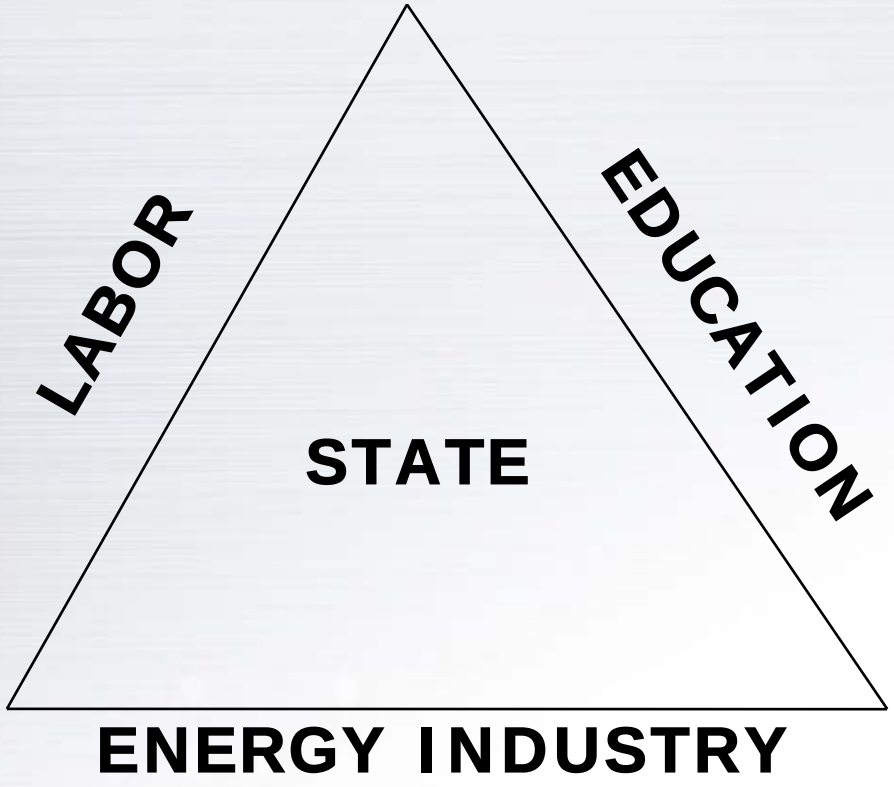
- Partnerships with two year Technical Colleges is increasing
- Provides ready source of qualified technical personnel – Skilled Trades to energy industry
- Curriculum adjustment to assist utility training program – shorter training time – employees reach full competence quicker (4 years vs. 2.5 years)
- Tech Colleges prepare students to meet utility prerequisites (EEI, Math, Science, Electronics, etc.)
- Tech Colleges can easily place qualified candidates – helps them recruit new students

A New Approach

- ***Energy Consortiums***
- ***A regional approach***

Regional Energy Consortiums

Tennessee, Alabama, Mississippi
Southeast Region



Energy Consortiums

A regional approach to address human resource development challenges

Center For
ENERGY
Workforce Development

Industry Solutions - Regional Implementation

Energy Consortiums

- Center for Energy Workforce Development
  - **Strategic Planning Guide for Energy Consortia**
    - **Provided by the US Dept. of Labor**
      - ***Steps for Success - A Self-Assessment Tool for States***
- ***Step One: Determine if the state level is the right geographic area to focus on as you develop solutions to these issues.***
- ***Step One: Determine if the state level is the right geographic area to focus on as you develop solutions to these issues.***
- ***Step Three: SWOT Analysis***
- ***Step Four: Establish a Shared State Identity and Vision***
- ***Step Five: Devise Strategies***
- ***Step Six: Leverage Resources and Implement***

State Consortia Example

TEICC

Tennessee Energy, Industry and Construction Consortium

Charter
(Focus on Skilled Craft Shortage)

- **Shared Vision**
- …. create an infrastructure that will provide a diverse skilled workforce adequate to meet the needs of energy, industry and construction. The Consortium will accomplish this by ensuring that appropriate enabling and sustaining systems are in place…..

- **PRIMARY OBJECTIVES**
- Implement a management structure and obtain resources to implement Consortium Action Plan priorities.

- Develop working partnerships with relevant federal agencies, state and national organizations, state and national support organizations.

- Support and enhance performance-based education, work-based learning and training programs for skilled and professional craft labor…..

- **Career Awareness and Outreach:** Plan and implement effective communications strategies that raise and create awareness among key audiences of the critical need for diverse skilled technical workers….

- **Funding Strategies:** Identify existing resources (federal, state, associations and partnerships) and determine where to make proposed long- and short-term investments.

- **Policy and Education:** Develop and implement strategies to influence state policy to support, promote and enhance career clusters and pathways in schools, e.g., career and technical education, pre-apprenticeship and DOL registered apprenticeship and proprietary schools.

STRUCTURE / GOVERNANCE

- Managed by an Executive Committee with members assigned to subcommittees

- **Executive Committee**
  - Executive Committee Chair
  - Executive Committee Vice Chair
  - Executive and Secretary

- **Subcommittees are made up of Chair, Vice-Chair and Members**
  - Career Awareness and Outreach Subcommittee
  - Funding Strategies Subcommittee
  - Policy and Education Subcommittee
  - Untapped Labor Sources Subcommittee

TEICC Members

- **Tennessee Valley Authority**
- Tennessee Valley Public Power Authority
- B&W Y-12 LLC
- State of Tennessee
- B&W Clinch River
- Energy Solutions
- Alston
- USEC
- Oak Ridge National Laboratory
- Day & Zimmerman NPS, Inc.
- G-UB-MK Constructors
- Knoxville Chamber
- East Tennessee Economic Council
- US Department of Labor
- Tennessee Board of Regents
- Millwright Machinery Erectors
- International Association of Heat & Frost Insulators & Allied Workers
- International Union of Painters and Allied Trades
- International Union of Operating Engineers
- Sheet Metal Workers' International Association
- Tennessee AFL-CIO Labor Council
- International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers
- Tennessee Carpenters Regional Council
- Laborers-Employers Cooperation and Education Trust
- Atomic Trades and Labor Council
- International Brotherhood of Electrical Workers
- Cooperative Agreement of Labor & Management
- Shaw/Stone & Webster
- L E Meyers

Consortium Member's Plan

- Tennessee Valley Authority
- Work Force Development Plan

TVA Workforce Development for Skilled Craft

- Objectives
  - ***Raise awareness*** of potential craft shortages
  - ***Promote alignment and integration*** of federal, state and local plans
  - ***Increase collaboration*** between the energy industry and government initiatives in workforce development, economic development and education
  - ***Identify existing efforts*** and programs that are successfully addressing the issue to serve as models of excellence
  - ***Develop long term strategies*** to ensure a workforce is available to meet the demands for building and maintaining the energy infrastructure

Who is involved?

- ***INDUSTRY***
  - **Utilities**
  - **All fuel types**
  - **Contractors**
- ***EDUCATION***
  - **Career & Technical Community Colleges**
  - **Four year institutions**
  - **High Schools**
- ***LABOR***
  - **Unions**
  - **Apprentice program coordinators**
- ***STATE***
  - **Governors WIB**
  - **Local WIB**
  - **Regional DOL**

Consortium Roles

- INDUSTRY
  - HR demand data
  - Skills required
  - Jobs
- LABOR
  - Apprentice programs
  - Alignment with industry - skill demands
- EDUCATION
  - Curriculum
  - Policy
  - Access to students
- STATE
  - Access to programs
  - Knowledge of funding

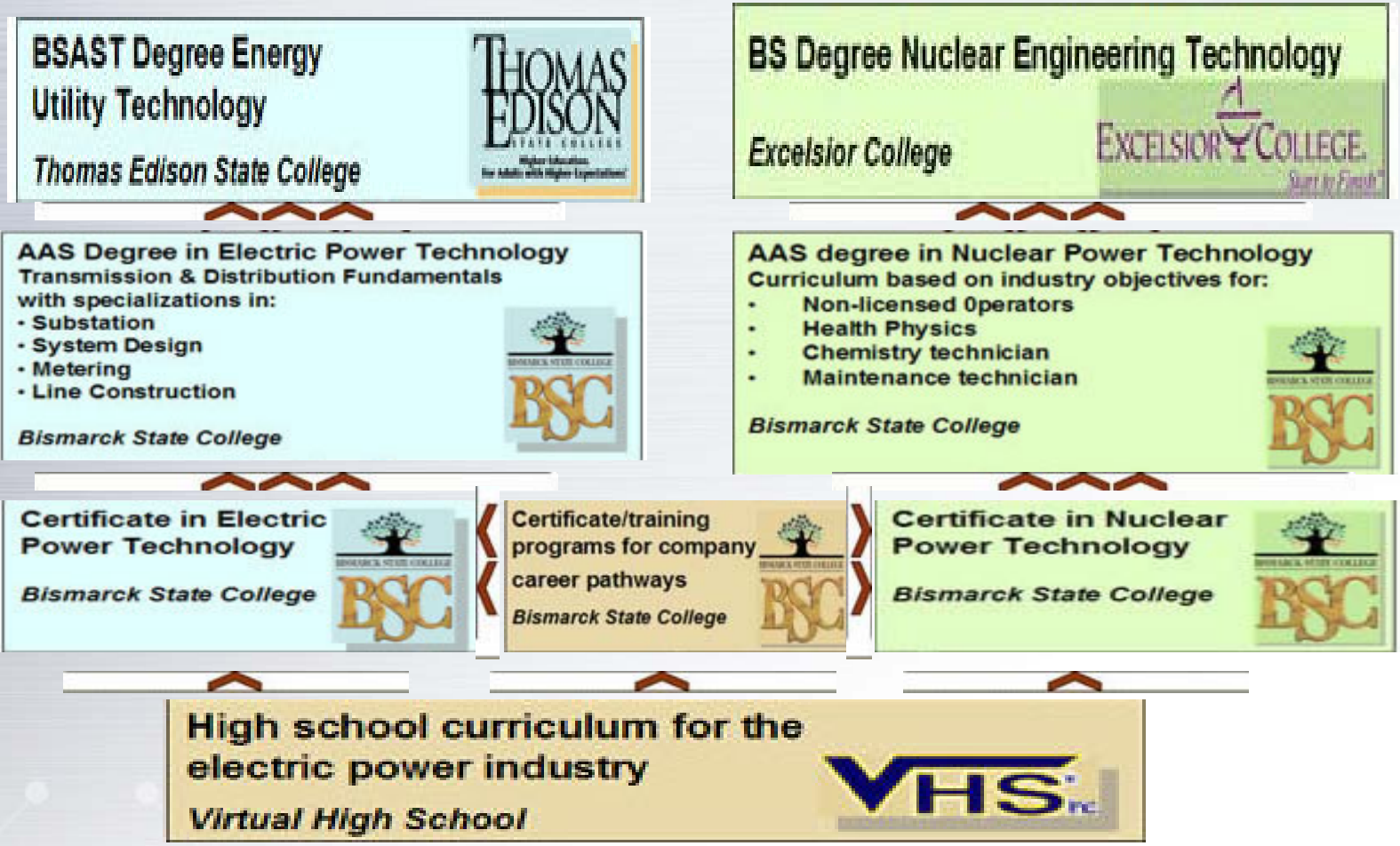
❖On Line Learning Partnerships

ENERGY PROVIDERS COALITION FOR EDUCATION

EPCE

Industry representatives that develops, sponsors, and promotes industry-driven, standardized, quality online learning programs to meet the workforce needs of the energy industry.

EPCE Academic Partners



Local Examples

- **Teen Work Program – Sponsored by Knoxville Utility Board – Provides an opportunity for high school seniors to work as interns for one month with various industries, including TVA**

- **Leadership Academies for Elementary Schools (Mississippi) – Provides opportunities for students (e.g., sixth graders) to learn about how to succeed in the real world. Focus on teamwork, communications and leadership**

- **TVA scholarship programs for current work force children – Focus on gifted students (evaluations by outside consultants)**

Benefits

- Business and industry gain and maintain a steady flow of workers.
- Post-secondary education gains financial, curriculum, and student recruitment support.
- Business and industry reduce overhead associated with redundant in-house training programs.
- Post-secondary education fulfills mission to meet learning needs of its varied constituencies.

Summary

- In the U.S. a closer working relationship has developed between the energy industry, government and academic community that reflects an increased sense of urgency.
- Current work force challenges such as the aging work force and the potential for new construction have served to drive this trend.
- Partnerships between educational institutions, utilities, government and unions have proven to provide mutual benefits for those involved.

Thank You !

Ed Boyles