



When we build, let us think that we build forever. Let it not be for present delight nor for present use alone. Let it be such work as our descendants will thank us for; and let us think, as we lay stone on stone, that a time is to come when those stones will be held sacred because our hands have touched them, and that men will say, as they look upon the labor and wrought substance of them, “ See! This our father did for us.”

~ John Ruskin





# NCCER

- Industry Overview
- Workforce Shortage
- NCCER
- Accreditation
- National Registry
- Curriculum
- Web Site





# INDUSTRY OVERVIEW

## USA TODAY

Monday, December 13, 2004

“Residential and commercial development in the next quarter-century will eclipse anything seen in previous generations.....according to a Brookings Institution report”



# INDUSTRY OVERVIEW

## Brookings Institution Study

“...nearly half of what will be the built environment in 2030 doesn't exist yet..”



# industry overview

- 6.9 million workers in construction
- 240,000 trained jobs unfilled each year
- Average craft worker is 47 years old
- Less than 500,000 in registered training program

# WORKFORCE SHORTAGE

## FMI Sample Data

**Labor Delta (Supply less Demand) as a Percentage of Total Estimated Demand  
Non-Residential Construction**

September-04

	2001	2002	2003	2004	2005	2006	2007	2008
Ironworkers -- Structural	18%	10%	7%	5%	0%	-1%	-6%	-10%
Ironworkers -- Rodmen	6%	1%	4%	3%	-1%	-4%	-8%	-11%
Operating Engineers	9%	4%	6%	6%	2%	-1%	-5%	-9%
Carpenters -- Interior & Framing	4%	5%	7%	2%	-4%	-6%	-13%	-18%
Carpenters -- Drywall	10%	12%	10%	5%	-1%	-3%	-10%	-16%
Carpenters -- All Other	12%	12%	9%	4%	-1%	-4%	-11%	-16%
Electricians	15%	12%	10%	5%	0%	-3%	-9%	-14%
Glaziers	2%	3%	6%	-1%	-4%	-6%	-11%	-17%
Laborers	13%	14%	7%	2%	-3%	-6%	-12%	-16%
Masons	1%	1%	5%	-1%	-5%	-6%	-12%	-17%
Painters	22%	25%	17%	11%	4%	1%	-7%	-12%
Pipefitters/Plumbers	1%	-2%	3%	-2%	-7%	-9%	-16%	-21%
Roofers	2%	4%	12%	7%	2%	-2%	-8%	-14%
Sheetmetal Workers	18%	12%	7%	1%	-4%	-7%	-13%	-18%



# WORKFORCE SHORTAGE

## BLS Expected Growth for Top-10 Wage and Salary Construction Occupations 2002- 2012 (%)

1	Heating, air conditioning, and refrigeration mechanics and installers	37.5
2	Electricians	27.3
3	Cement masons, concrete finishers, and terrazzo workers	25.5
4	Drywall installers, ceiling tile installers, and tapers	24.3
5	Sheet metal workers	22.8
6	Pipelayers, plumbers, pipefitters, and steamfitters	22.5
7	Cost estimators	19.6
8	Roofers	18.8
9	Brickmasons, blockmasons, and stonemasons	17.4
10	Industrial machinery installation, repair, and maintenance workers	17.0



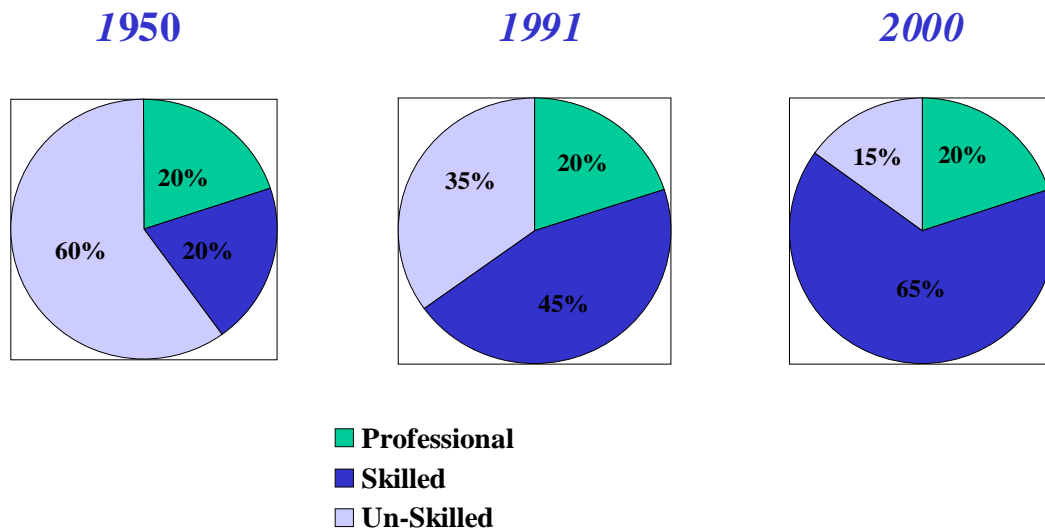
# WORKFORCE SHORTAGE

## The mission is critical!

- Recruit
- Replace
- Train (New)
- Retain & Train Incumbent
- Improve the industry's image

# NCCER

## ***DEMAND FOR SKILLED WORKERS TRIPLES*** *( % of Total Workforce)*



Source: U.S. Bureau of Labor Statistics

## The Workforce Gap

### Where 9th Graders Are Headed



**28%** will enter a 4-year college



**32%** will enter an associate degree program or advanced training



**10%** will lack the skills needed for employment



**30%** will drop out of the system before completing high school

vs.

### Where the Jobs Are\*\*

**20%** require a 4-year college degree



**65%** require an associate's degree or advanced training



**15%** require minimum skills for employment



Carol D'Amico, Workforce 2020: Work and Workers in the 21st Century



# NCCER

- **ASPEN SUMMIT**
- Leading Industrial Contractors
- Most progressive Industry Associations
- Funded
- Standardized Curricula
- Curricula written by Subject Matter Experts (*SMEs*)
- National Registry
- NCCER Standardized Training Process



# 2005 Board of Trustees

Doug Pruitt, Chairman  
**Sundt Construction, Inc.**

Ronald Mckenzie, Vice-Chairman  
**TIC/The Industrial Company**

Henry Kelly, Past Chairman  
**Austin Industrial**



# 2005 Board of Trustees

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# STANDARDIZED TRAINING PROCESS

- Standardized Construction Curricula  
Craft, Safety & Management Education
- Accreditation for the Organization
- Instructor Certification
- National Registry

# ACCREDITATION PROCESS

## Eligible Organizations

Contractor  
Association Chapter Owner  
Government Agency  
Training Consultant  
For Profit School



ACCREDITED TRAINING SPONSOR

Training Unit

- Contractor
- Job/Plant Site
- School

ATEF

- School

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# EXTENSIVE USE IN US

Associations  
Contractors  
Owners  
Schools  
Consultants  
Corrections



Over 500 Training Sponsors

More than 2000 schools

Departments of Education promote  
Contren in 25 states

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# ICTP



**Master Trainers**  
24 hour ICTP for MTs

**Craft Instructors**  
24 hour ICTP

**Craft Professionals**

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- NCCER Partners

American Fire Sprinkler Association

American Petroleum Institute

American Welding Society

Associated Builders and Contractors

[Association for Career & Tech Education](#)

AGC of America

Carolinas AGC

Construction Industry Institute

Construction Users Roundtable

National Association of Minority Builders

[National Association of State Supervisors for Trade and Industrial Education](#)

National Association of Women in Construction

National Insulation Association

National Ready Mixed Concrete Association

National Utility Contractors Association

[National Vocational Technical Honor Society](#)

Painting & Decorating Contractors of America

Portland Cement Association

[SkillsUSA](#)

Steel Erectors Association of America

US Army Corps of Engineers

University of Florida

Women Construction Owners & Executives



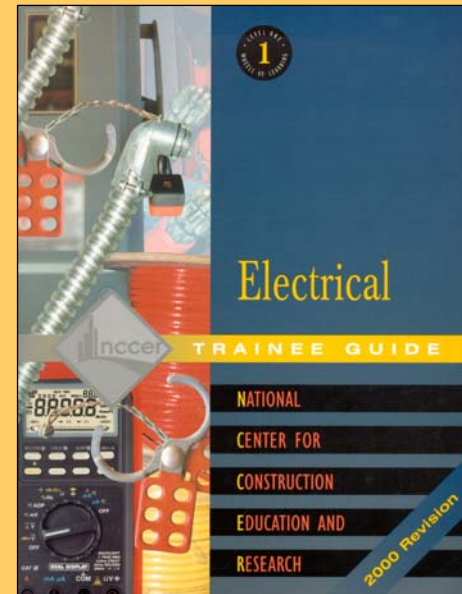
# Craft Training ROI

- OSHA Recordable injuries are down 67 percent
- First aids are down 90 percent
- Productivity is up 10-24 percent
- Re-work is down 50-70 percent
- Turnover is down 32 percent
- Unexcused absences are down 59 percent
- **Staffed with 100 percent NCCER-certified craft workers**

# contren learning series

## Standardized

- Competency-based
- National subject matter expert (SME) committee
- Performance standards
- Performance testing
- Books have common format
- Common instructional systems design





# curriculum design

- Instructor and Trainee Guide for each Module or level
- Module
- Must Pass Written & Performance Tests for each
- Level format
- Modules sequenced in a logical instructional order
- Curricula meets ATELS Requirements
- *(Apprenticeship, Training, Employers & Labor Services)*



# CONTREN LEARNING SERIES

## Construction, Maintenance, & Pipeline Curricula

- Core (*Introductory Craft Skills*)
- Carpentry
- Electrical
- Plumbing
- Welding
- HVAC
- Construction Craft Laborer
- Concrete Finishing
- Sheet Metal
- Insulating
- Scaffold Building
- Ironworking
- Pipelayer
- Highway/Heavy
- Masonry
- Sprinkler Fitting
- Electronic Systems Technician
- Industrial Painting
- Heavy Equipment Operations
- Industrial Maintenance Tech
- Mobile Crane Operations
- Pipefitting
- Instrumentation
- Millwright
- Boilermaking
- Pipeline
- Painting
- Residential Carpentry
- Residential Electrical





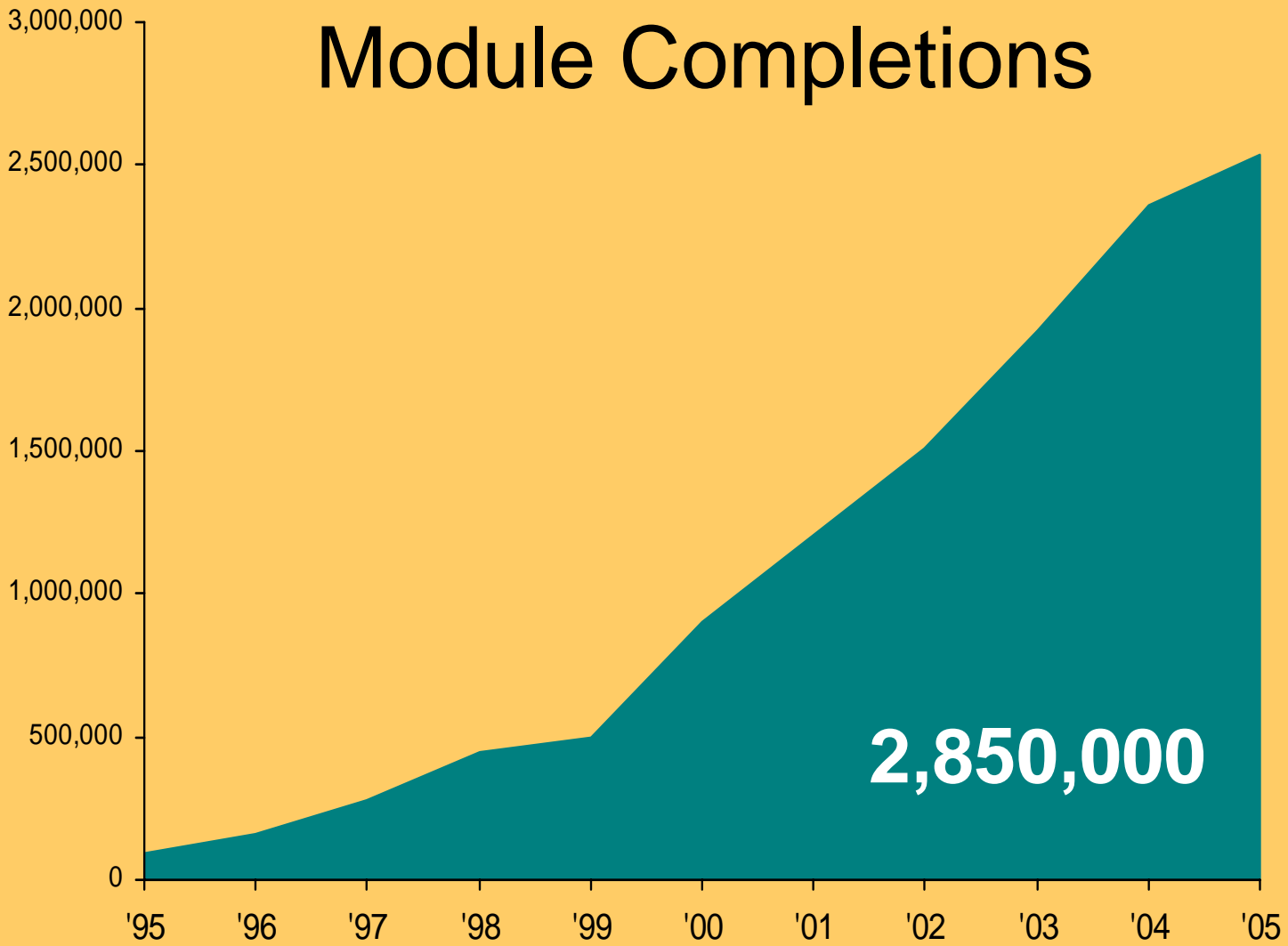
# NATIONAL REGISTRY

- Confidential
- Portable Credentials
- Documentation of training and skills attainment



# NATIONAL REGISTRY

## Module Completions



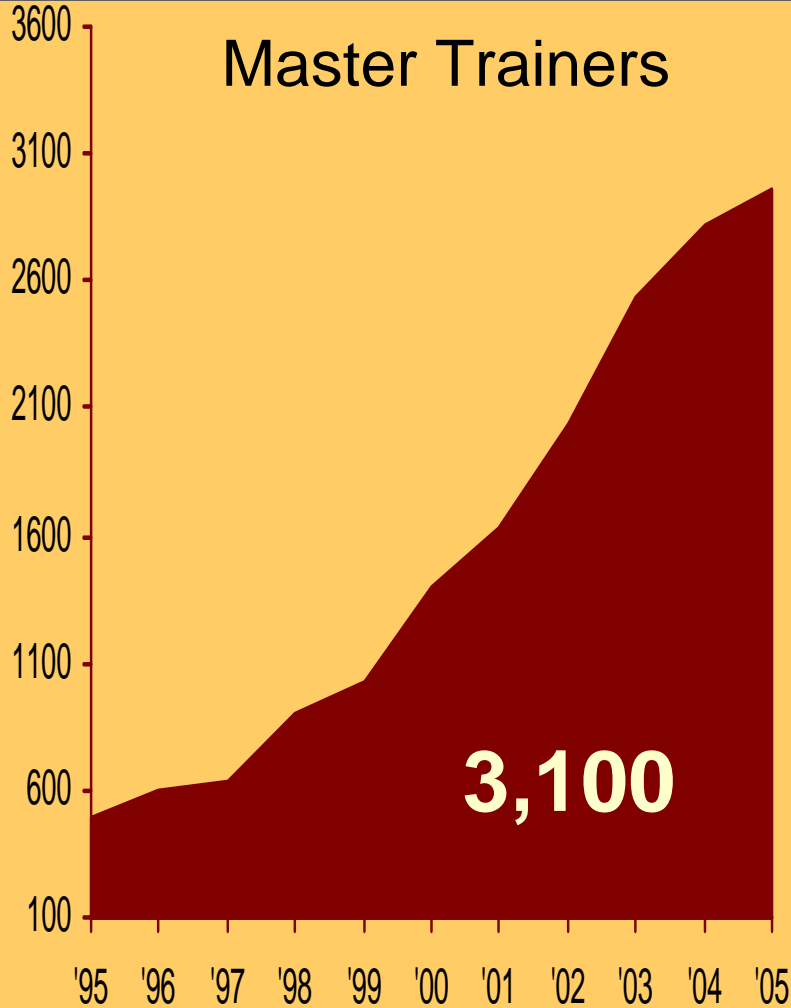
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09/14/05

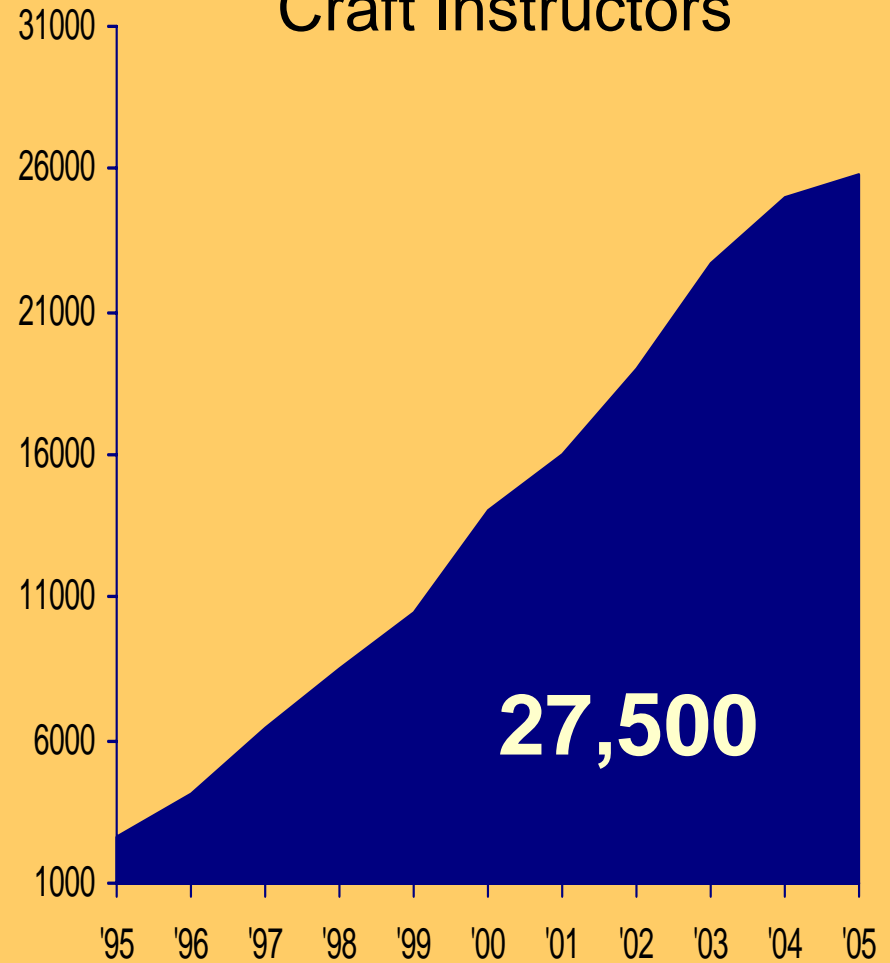


# NATIONAL REGISTRY

## Master Trainers



## Craft Instructors



# NATIONAL REGISTRY



**NATIONAL CENTER  
FOR CONSTRUCTION  
EDUCATION AND RESEARCH**

Affiliated with the University of Florida  
Post Office Box 141104 Gainesville, Florida 32614-1104  
352.334.0911 Fax 352.334.0932 www.nccer.org

9/28/00  
Page : 1

John Doe  
XYZ Construction, Inc.  
123 4th Street  
Lake Geneva, WI 53147

SSN: 224007384

Course / Description	Instructor/Training Location	Date Completed
00101 Basic Safety	Frank Fergenbergen <i>Big City</i>	4/1/00
00102 Basic Math	Frank Fergenbergen <i>Big City</i>	4/1/00
00103 Introduction to Hand Tools	Frank Fergenbergen <i>Big City</i>	4/1/00
00104 Introduction to Power Tools	Frank Fergenbergen <i>Big City</i>	4/1/00
00105 Introduction to Blueprints	Frank Fergenbergen <i>Big City</i>	4/1/00
00106 Basic Rigging	Frank Fergenbergen <i>Big City</i>	4/1/00

NO ENTRIES BELOW THIS LINE

*Donald E. Whyte*

President

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## National Center for Construction Education and Research

This is to certify that

**John Doe**

has fulfilled the requirements for  
**Pipefitting Level One**

in the NCCER's standardized training curriculum  
this Tenth day of September, 2003



NCCER NATIONAL REGISTRY

**John Doe**  
XYZ Construction

Core Curricula	9/10/03
Pipefitting Level One	9/10/03
Pipefitting Level Four	9/10/03
Pipefitting Level Three	9/10/03
Pipefitting Level Two	9/10/03

*Donald E. Whyte*

Donald E. Whyte  
President

*Donald E. Whyte*  
Donald E. Whyte  
President, NCCER

388617



# automated national registry

- Online Management of NCCER Registry for Sponsors and Assessment Centers
- Training and Assessment History Verification for Contractors



**ISN Software  
Corporation**



# PERKINS FUNDING

## Performance Indicators

### S.2686

***New performance measures for secondary education:***

- (i) align with nationally recognized industry standards
  
- (ii) align with NCLB



# PERKINS FUNDING

## Performance Indicators

### S.2686

#### (iii) *Student rates of attainment of:*

- technical skill proficiency
- credential
- certificate
- apprenticeship programs
- employment



# DuPont Partnership



## “DuPont Engineering Requires NCCER Training and Assessment”

- DuPont Engineering has entered a training partnership with NCCER.
- Contractor craft personnel assigned to a DuPont site are now required to be assessed and trained with NCCER’s standardized construction and maintenance program unless they are otherwise assessed and trained.
- **“We believe this decision is a great step for both DuPont Engineering and our construction and maintenance contractor partners,”** says Jocelyn Scott, Director-DuPont Engineering. **Increasing the knowledge and skill level of our employees and our contractor workforce is key to creating competitive advantage.** Training and continuous improvement is a win for the workforce, a win for DuPont, and a win for our contractor partners.”

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# Monster Partnership




- Career resources web site
- Primary Sponsor of BYF Careers Video
- Image support



# WWW.NCCER.ORG

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NATIONAL CENTER FOR  
CONSTRUCTION EDUCATION  
AND RESEARCH

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**The National Center for Construction Education and Research (NCCER)** was created to address the critical workforce shortage facing the construction industry and to develop industry driven standardized craft training programs with portable credentials.

**Our Mission** is to assure that industry clients receive quality services and industry workers have rewarding, progressive careers. The National Center for Construction Education and Research provides world-class craft training materials, opportunities for leadership growth, and effective safety training that will enhance productivity, cost-effectiveness, and the image of the construction and maintenance industry.

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# NCCER



## Ed Prevatt

Workforce Development Consulting Group

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[www.nccer.org](http://www.nccer.org)

