



# Workforce Development Evaluation Toolkit

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## Overview

*How do you know if your workforce development efforts are successful? A simple question, but hard to answer.*

This toolkit has been designed by the Center for Energy Workforce Development (CEWD) to help CEWD members answer that question. Evaluation and metrics are a critical link in any planning process as shown in this workforce planning chart. But evaluation is not the first step. Workforce planning begins with the company business strategy and continues to a set of key workforce strategies, including strategies for workforce development. These strategies will guide the creation of a workforce that is the right size and has the skills and competencies to keep the business strong and competitive.

The evaluation *process* described in this tool kit can be used as a framework for measuring any workforce strategy, but the *key performance indicators* and *critical success factors* are specifically created to measure what matters most in the creation of career pathways to energy jobs in the skilled trades.

*First some definitions...*

For the purpose of this toolkit we have defined two types of metrics:

- **Key Performance Indicators (KPIs)** are quantifiable measurements that reflect progress toward defined goals.
- **Critical Success Factors (CSFs)** assess actions that need to be in place to achieve strategies

For example, a KPI for workforce development is the number of hires compared to planned hires, but a Critical Success Factor would be the existence of focused career awareness programs. In other words, the existence of career awareness programs in and of itself may not indicate progress towards the goal of qualified hires. But the absence of career awareness programs makes it harder to achieve the goal, so it becomes a factor for success in achieving the goal. As another example, attrition or turnover is a KPI, but strong HR practices are considered a CSF.

*Comparisons to other companies and national benchmarks.*

Some information on benchmarking at a national level is currently available such as the average pass rate of applicants on the EEI pre-employment tests, and additional information will be collected as the data collected on the metrics becomes more robust.



**Workforce Planning Model**

## Strategies and Stakeholders

The metrics in this toolkit have been designed to measure the success of specific workforce development strategies. Your company may have additional strategies that you will need to assess for different metrics. The workforce development strategies identified for this toolkit are:

**Objective:** Develop a sufficient supply of qualified, diverse applicants

**Strategies:**

- Balance supply and demand for the energy workforce in key job categories at the national, state and local level
- Increase awareness of opportunities for education and employment among students, parents, educators, and government
- Close the skill gaps between secondary and post secondary graduates and job requirements for current and future jobs
- Maintain an appropriate number of successful training and education programs with curriculum to support energy pathways
- Align hiring practices to pipeline training / educational programs

The Get Into Energy Career Pathways Model defines 3 key stakeholders in achieving this objective – Industry; Education; and Students / Potential applicants. The stakeholders each represent a unique perspective in achieving workforce development strategies. Each has an individual role in making a qualified, diverse workforce a reality. We have identified the KPIs and CSFs for each of the stakeholder groups below.



	Industry	Education / Training	Potential Applicants
KPIs	<ul style="list-style-type: none"> <li>▪ Planned and actual entry level hires</li> <li>▪ Planned and actual experienced hires</li> <li>▪ Attrition by tenure – retirement and other</li> </ul>	<ul style="list-style-type: none"> <li>▪ Number of students enrolled in pipeline programs</li> <li>▪ Number of students completing pipeline programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Percentage passing each stage of screening</li> </ul>
CSFs	<ul style="list-style-type: none"> <li>▪ Total number of employees over time</li> <li>▪ Average age of existing workforce over time</li> <li>▪ Average length of tenure over time</li> <li>▪ Total openings / demand</li> <li>▪ Strength of HR Practices</li> </ul>	<ul style="list-style-type: none"> <li>▪ Types of Pipeline training programs</li> <li>▪ Number of apprentices by year of program</li> <li>▪ Length of apprenticeship programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Career awareness activities</li> <li>▪ Number of candidates screened</li> <li>▪ Pre employment test pass rate by source of hires (EEI, WorkKeys, other)</li> </ul>

There is a list of definitions for the terms used in the metrics in Appendix A.

Based on your own company's goals, you may want to further identify specific target audiences and complete the evaluation questionnaire for each audience. For example, if you have a focus on military, you will want to track the number of hires, education programs, screening rates, and other metrics for that audience separately from other applicants. Or, you might want to track target audiences by another diversity factor.

You may also want to complete the metrics for separate organization functions within the company or separate business units to be able to drill down to lower levels and assess issues within separate areas of the company

The metrics are designed to be a high level scorecard to determine the success of workforce development strategies and to diagnose areas for improvement. The data gathered through this toolkit can be combined with other industry data already being collected to provide a comprehensive graphic picture of where companies find skilled workers, where employees are getting their skills, how potential employees learn about the skills needed to work in the energy industries, the current and future demand for employees, and the effective training and human resource policies and practices that help companies maintain and retain a high-quality workforce.

Although the metrics in this tool kit have been specifically designed for skilled workers, they can also be used for Engineers or other positions requiring a bachelor's degree. The CSFs on apprenticeships would not apply, but can be substituted with data on required on the job training and experience.

Additional information on economic development in your state or community will be beneficial to understanding the economic environment. Data on unemployment, the dropout rate, number of High School graduates and other data will provide support for an environmental scan of the workforce development picture in your region.

By knowing what effect your workforce development investments have, your company can make more informed decisions about those investments.

## How to Use the Toolkit

### **1. Complete the survey**

#### ***What level of the organization do you want to capture?***

Identify the organization level that you want to use to capture the metrics. For example, you may want to complete the survey for each company subsidiary, or by functional unit (Generation type, T & D type), or by geographic location (state, division)

#### ***What target audience do you want to capture?***

You may choose to complete the survey for all new hires, or the metrics can be used to analyze a particular group of hires such as military, women, minorities, in state, or out of state,

***Which job categories are included?***

Key job categories are groups of jobs with similar skills that require the development of a talent pool. Determine the level of job and the specific job categories you will capture. As an example, at the national level, the critical job categories are:

- Electric Transmission and Distribution - lineworker and utility technician
- Gas Transmission and Distribution - utility technician and Pipefitter / Pipelayer / Welder
- Nuclear Power Generation – Plant Technician, Maintenance Technician and Non-licensed Operator
- Non nuclear generation – Plant Operator, Field Operator, Technician, Pipefitter / Pipelayer / Welder

(For the CEWD national survey, you will need to complete the metrics for each job category and then roll the results up by organization.)

***Who should fill it out?***

The survey should be filled out by the person responsible for human resources and training decision-making in the function or business unit. Questions focus on investments and training activities for critical job categories. Thus, in order to provide the most accurate data, the respondent must be informed enough to make accurate estimates.

***How often should you complete the survey?***

The frequency depends on your own ability to collect and report the metrics. You may want to fill out the metrics questions in this toolkit on a quarterly basis to track progress during the year. But, some of the indicators will not change quarter to quarter. For example, you may want to collect information on hiring quarterly, but you may not add additional training programs that often.

To make the data more meaningful, you may also want to complete the questions for prior years.

***How long will it take?***

The amount of time this will take depends on the type of HR Information System you are using and the availability of data.

***What information do I need to complete the survey?***

You will need to collect information for each of the stakeholder areas – industry demand, education supply and on potential applicants. Please remember that these questions will pertain to each job categories and organization level you select.

**Industry Demand**

- Data on hiring for the past 12 months
- Planned hiring for the past 12 months
- Age and years of service of current employees
- Total number of employees and current openings for the company or organization competing the survey



- HR practices

Education Supply

- Number of students enrolled in and completing pipeline programs (check the CEWD Supply reports for information by institution on completers)
- Education institutions you are currently partnering with
- Data on apprenticeships and OJT

Potential Applicants

- Pass rates on pre-employment tests
- Career Awareness activities
- Screening results by type of screening and educational institutions

See appendix B for the survey in a document format.

**Before you start you should decide:**

- Which target audience will these metrics focus on for my company / organization?
- Which key job categories will my company / organization collect data for?
- What level of the organization will complete the metrics survey? Business Unit? Plant? Geographic location?
- What periods of time will my company / organization collect data for?
- How often will we update the data?

**2. Create the dashboard**

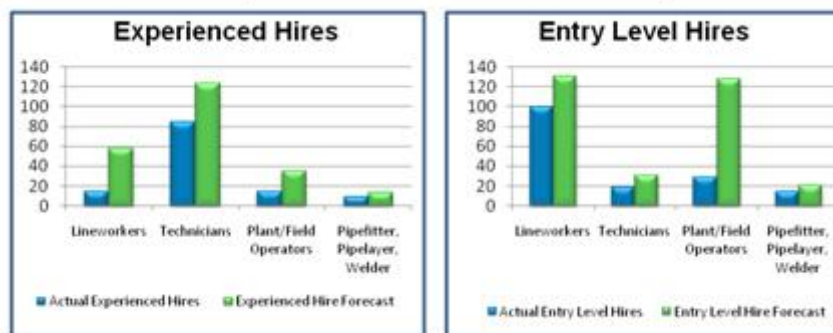
The dashboard is a visual representation of the results of the survey. It is intended to show improvement over time or areas that need improvement. The dashboard communicates, simply and effectively, the information that decision makers need to know about workforce development for key job categories. The dashboard will help planners to detect and respond to change. The graphs are indications of progress at a point in time and need to be analyzed for potential actions for change. For example, in the sample graphs below, the company has been able to hire entry level lineworkers at a rate that is close to the plan, but has not been able to hire experienced lineworkers. So,

potential areas for analysis might be:

How was the number of planned experienced hires derived?

What sources were expected?

Have potential hires been indentified, but not hired because or testing or screening issues?



Are experienced applicants just not available?

Should the plan be reevaluated?

Why is there such a large gap in the number of entry level Plant / Field Operators? What is the entry job for this job category?

See appendix C for the sample dashboard for Key Performance Indicators and supporting detail for Critical Success Factors



# Appendix A – Definitions

## Job categories

- **Lineworker** – an hourly craft position that is responsible for the installation, maintenance and repair of underground and overhead electrical wires and equipment, including poles, transformers, circuit breakers, etc. in both the Transmission and Distribution Departments. This would include all classifications from apprentice to journeyman, chief, crew leader, etc.
- **Technician** – hourly craft positions including substation mechanic/electrician, relay technician, engineering technician, instrument and control technician, maintenance technician, electrician, electrical technician, meter technician. These positions could be in non-nuclear generation, transmission or distribution departments. This would include all classifications from apprentice to senior or lead positions.
- **Field/plant operator** – hourly craft positions including non-nuclear power plant operators, auxiliary equipment operators, gas metering and regulating station operators. This would include all classifications from entry-level to senior operator positions.
- **Pipefitter/pipelayer/welder** - hourly craft positions in non-nuclear generation or gas transmission and distribution departments, including all levels of classification from entry-level to crew leader. The types of jobs in this category are distribution mechanics, service specialists (gas leak responders, appliance repair technicians), etc.

**Entry-level positions** – Skilled craft positions where candidates enter meeting the minimal requirements of the position (i.e. high school diploma) and then enter a company sponsored apprentice program.

**Experienced-level positions** – Skilled craft positions where candidates enter having experience in the work and have tested out for placement either further along in the apprentice program or directly into a journeyman classification

**Pipeline program** – a certificate or associate degree program at a community/technical college that has been developed to train people in the skills required to perform energy industry work

**Completers** – Individuals who complete one of the pipeline programs

**Apprentice training** – Company sponsored program to train entry-level employees in the skills, work procedures, safety requirements of the skilled craft positions. The training may be state or DOL approved or not. These programs cover several years of training combining in-class instruction with on the job application.

**Applicant** – an individual who applies for a position and meets the minimum requirements of the job.

# Appendix B

## Sample Survey

### Industry – Demand

1.	How many entry-level positions have been filled in the past 12 months?	
2.	How many experienced-level positions have been filled in the past 12 months?	
3.	How many entry-level positions are you expecting to hire in the next 12 months?	
4.	How many experienced-level positions are you expecting to hire in the next 12 months?	
5.	In the past 12 months, what is the number of employees who vacated their position for reasons other than retirement?	
6.	In the past 12 months, what is the number of employees who vacated their position for retirement?	
7.	How many current employees are over age 58 and have more than 25 years of service?	
8.	What is the average age of your existing workforce?	
9.	What is the average length of tenure?	
10.	Are you currently hiring to replace workers?	
11.	Are you currently hiring to expand your workforce?	
12.	How many total employees do you currently have?	
13.	How many total openings do you currently have?	
14.	How would you rate the following human resource practices at your organization for this job category? 1 – do not have, 2 – poor , 3 - Just okay, 4- good, 5 – excellent	
	annual performance review	
	individual development plan	
	360 or peer review	
	skill certification/documentation of competencies	
	career ladders or pathways	
	job rotation	
	on-the-job training/work-based learning	
	mentoring/coaching	
	tuition reimbursement	

## Education / Training – Supply

1.	What is the current number of students enrolled in pipeline programs?	
2.	What is the number of students expected to complete pipeline programs in the next 12 months?	
3.	Has your company worked or is your company currently working with any of the following to develop or deliver training credentials or training programs for your company that support energy job qualifications?	
	High school	
	technical/community college	
	other technical school	
	university/4-year college	
	private training company or consultant	
	employer association	
	government agency such as a WIB	
	labor union	
	other	
4.	What is the current number of apprentices by year of program?	
5.	On average, approximately how many years does each of the apprentice programs last?	

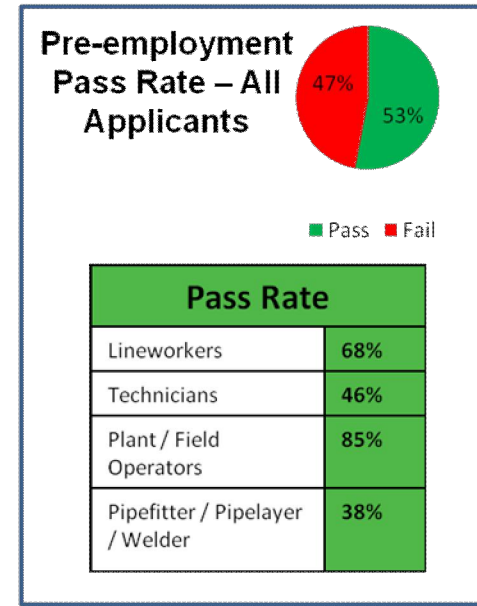
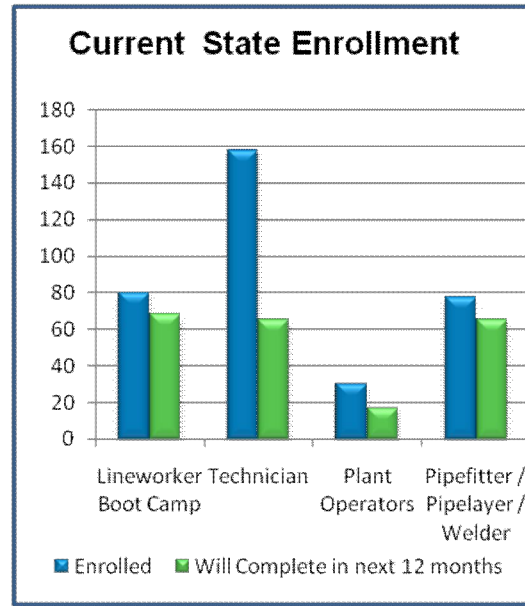
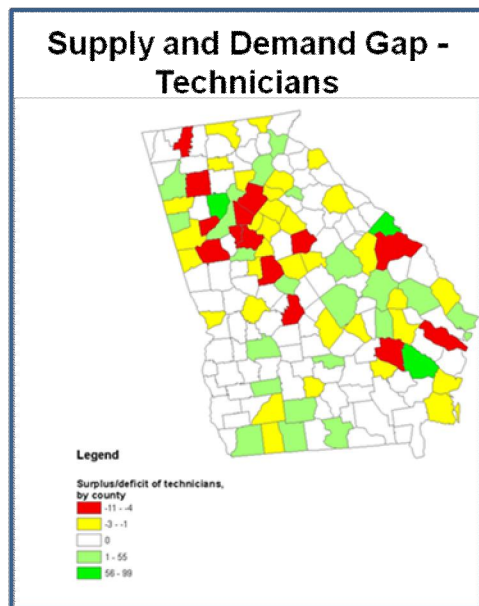
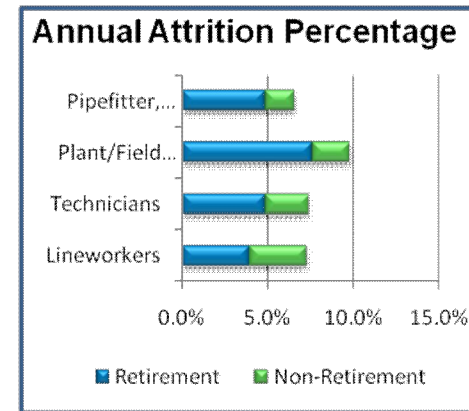
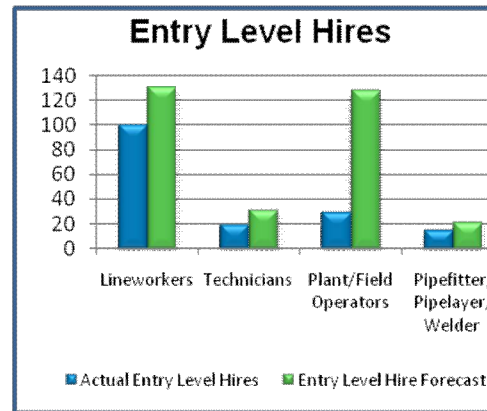
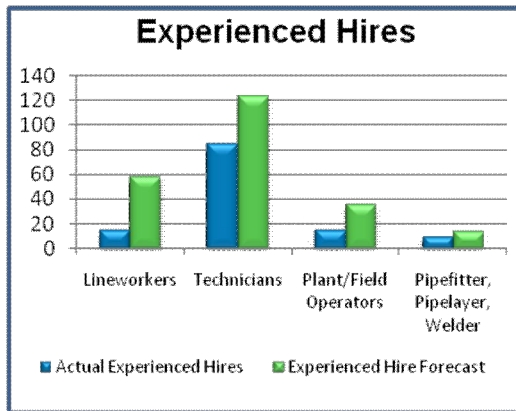
## Potential Applicants – Skills

1.	What is the current pass rate (percentage) on your pre-employment skill test?	
2.	To what extent does your company currently participate in any of the following career awareness activities? Rating: 1 – not at all, 2 – somewhat, 3-significant	
	Get into Energy website	
	career awareness materials	
	open houses	
	teacher career days	
	summer camps	
	Internships/mentorships	
	Provide equipment or space to schools	
	curricula and standards	
	employees as volunteers	
	career fairs	
	military outreach	

	Other _____	
3.	How many people did you screen in total in 200X?	
4.	What percentage of individuals (based on the number in the previous question) did not make it past the screening process?	
5.	Of the individuals who do not make it past the screening process, why do they not pass? <i>(Enter percentages to total 100%)</i>	
	pre-employment test	
	physical ability	
	drug screen	
	background screen	
6.	Of the individuals who do make it successfully past the screening process to an interview, please provide estimates of the percentage that came from or were referred by each of the following entities. <i>(Enter percentages to total 100%)</i>	
	High school	
	Partnered technical or community college	
	Other technical or community college	
	University / 4 year college	
	Private training company or consultant	
	government agency / WIB	
	labor union	
	Community Based Organization / Pipeline Organization such as	
	YouthBuild	
	other	

# Appendix C

## Workforce Development Metrics Dashboard – Example Electric and Gas Company – Third Quarter 2010



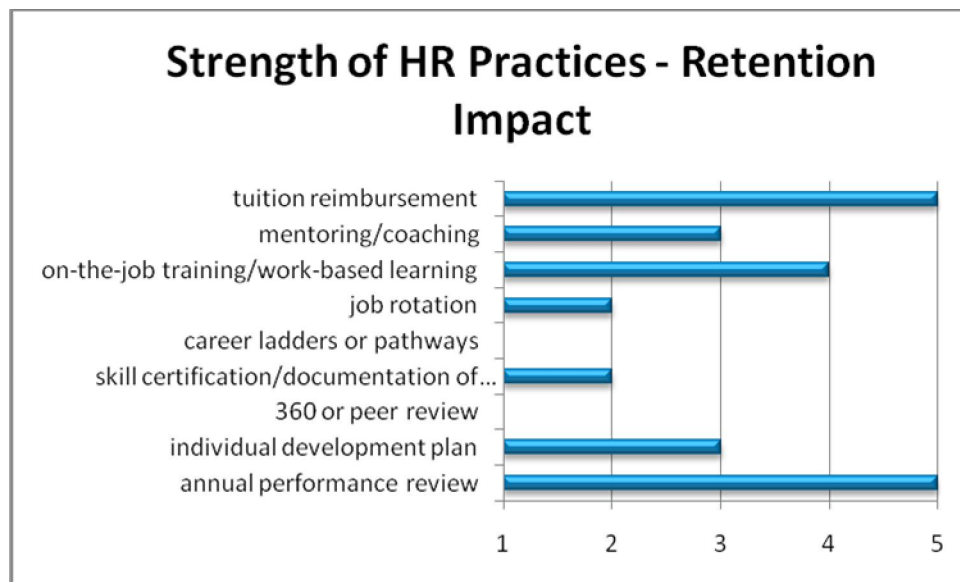
## Workforce Development Metrics Dashboard Supporting Metrics – Critical Success Factors for Industry Demand

### Example Data

(By Company or Key Job Categories)

Metric	2006	2007	2008	2009	2010
Total number of employees	5,168 ↑	5,023 ↑	4,995 ↑	4,990 ↑	4,885 ↑
Average age of workforce	45.7 ↑	45.9 ↑	45.3 ↓	45.3 ↓	45.8 ↑
Average length of tenure	22 Years ↑	23 years ↑	22 Years ↓	23 Years ↑	23.5 Years ↑
Number of employees over age 58 with 25 years of service	1722 ↑	1785 ↑	1665 ↓	1770 ↑	1830 ↑
Forecasted demand	685 ↑	523 ↓	805 ↑	850 ↑	900 ↑
Hiring to replace workers?	Yes	Yes	Yes	Yes	Yes
Hiring to expand workforce?	No	Yes	Yes	No	No

The arrows indicate an increase or decrease from the previous year. The colors indicate a positive trend (green), negative trend (red) or no change (yellow). For example, the average age of the workforce in 2007 show a red arrow point up. This would suggest that younger people are not being hired and older workers are not retiring. The black arrows indicate only increase or decrease over time.



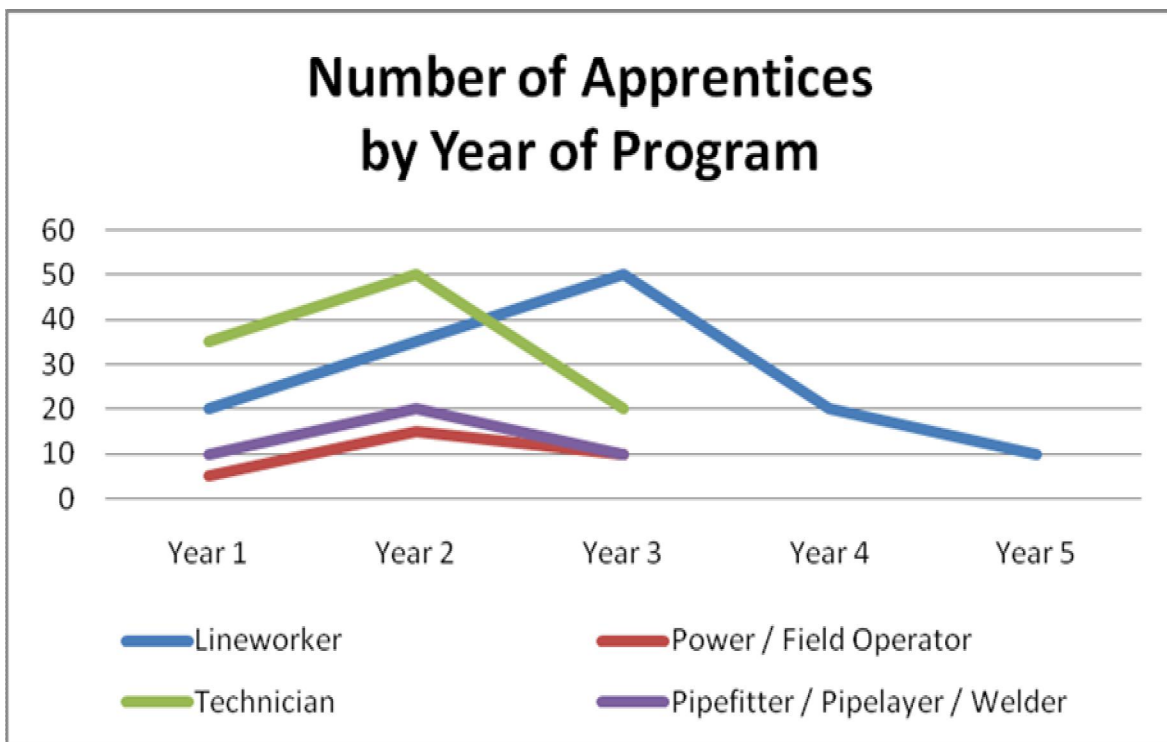
Scale: 1 – do not have, 2 – poor, 3 – just okay, 4 – good, 5 - excellent

## Workforce Development Metrics Dashboard Supporting Metrics – Critical Success Factors for Education Supply

*Example Data*

(By Company or Key Job Categories)

Current partnerships to develop training	Lineworker	Plant / Field Operator	Technician	Pipefitter / Pipelayer / Welder
High school	✓	✓	✓	✓
Technical/community college	✓	✓	✓	
Other technical school	✓			
University/4-year college		✓		
Private training company or consultant				
Employer association				
Government agency such as a WIB				
Labor union	✓			✓
Other				





## Workforce Development Metrics Dashboard

### Supporting Metrics – Critical Success Factors for Potential Applicants

*Example Data*

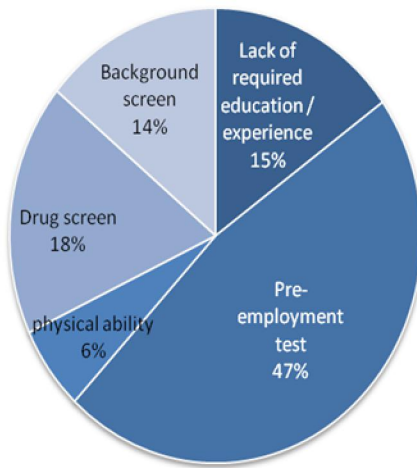
(By Company or Job Category)

Total Number of Candidates screened	Number of Candidates hired	Screened to Hire ratio
<b>5,238</b>	<b>292</b>	<b>18 to 1</b>

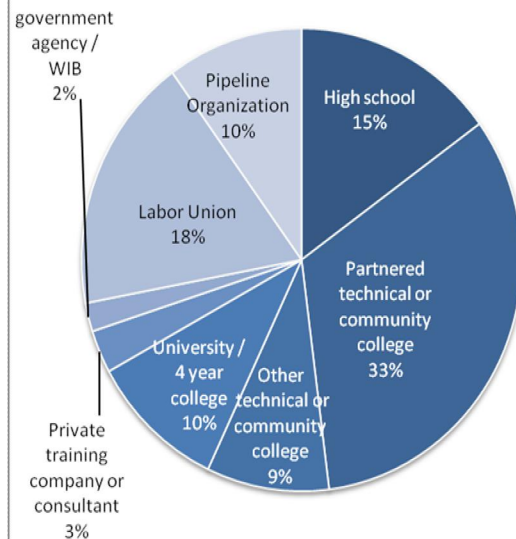
#### Career Awareness Activities

Significant	Somewhat	Not at all
Get into Energy website	Internships/mentorships	Open houses
Career awareness materials	Provide equipment or space to schools	Teacher career days
Military outreach	Employees as volunteers	Summer camps
	Career fairs	Curricula and standards

**Reason for Failing Screening**



**Pass Rate by Source of Hires**





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Formed in March 2006, the Center for Energy Workforce Development (CEWD) is a non-profit consortium of electric, natural gas, and nuclear utilities, contractors and their associations—Edison Electric Institute, American Gas Association, American Public Power Association, Nuclear Energy Institute, National Rural Electric Cooperative Association, and Distribution Contractors Association.

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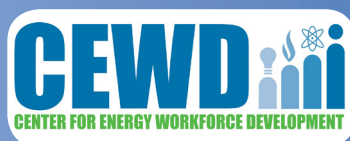
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