Summary of Changes

Energy Generation, Transmission, and Distribution Competency Model

The Energy Generation, Transmission, and Distribution Competency Model was updated in 2025, 2018, and 2010.

**April 2025 Update:**

Updates have been made on Tiers 1 and 2, to align with the new Building Blocks Model, including the addition of new digital literacy competencies.

# August 2018 Update:

## Tier 1 – Personal Effectiveness Competencies

* No changes were made to the Tier 1 Competencies.

## Tier 2 – Academic Competencies

* No changes were made to the Tier 2 Competencies.

## Tier 3- Workplace Competencies

* No changes were made to the Tier 3 Competencies.

## Tier 4- Industry-Wide Technical Competencies

* Added and removed key behavior titles and descriptions to 4.1 Safety Awareness block and updated several existing key behavior descriptions.
* Added key behavior titles *4.1.1 Maintaining a healthy and safe environment & 4.1.2 Safeguarding one’s person*

## 4.1 Safety Awareness

* Added key behavior title 4.1.1 Maintaining a healthy and safe environment
  + Added key behavior descriptions:
    - 4.1.1.1 Takes actions to ensure the safety of self and others, in accordance with established personal and jobsite safety practices
    - 4.1.1.3 Anticipates and prevents work-related injuries, illnesses, and potential hazards
    - 4.1.1.5 Complies with federal, state, and local regulations, and company health and safety policies
    - 4.1.1.7 Recognizes common hazards and unsafe conditions that occur at work, their risks, and appropriate controls to address them
    - 4.1.1.8 Follows organizational procedures and protocols for workplace emergencies, including safe evacuation, and emergency response
    - 4.1.1.10 Maintains a sanitary and clutter free-work environment
    - 4.1.1.11 Administers first aid or CPR if trained and summons assistance as needed
    - 4.1.1.13 Properly handles and disposes of hazardous materials
  + Edited key behavior description:
    - ~~4.1.11~~ 4.1.1.9 Alerts co-workers and supervisory personnel to hazardous conditions and deviations from safety procedures ~~in a timely manner~~ as soon as safely possible
* Added key behavior title 4.1.2 Safeguarding one’s person
  + Added key behavior descriptions:
    - 4.1.2.4 Recognizes how workplace risks can affect one’s life and one’s family
    - 4.1.2.5 Understands the legal rights of workers regarding workplace safety and protection from hazards
    - 4.1.2.6 Reports injuries, incidents, and workplace hazards to a supervisor as soon as safely possible
    - 4.1.2.7 Contributes to discussion of safety concerns in the workplace, making suggestions as appropriate
  + Edited key behavior description:
    - ~~4.1.8~~ 4.1.2.3 Uses appropriatepersonal protective equipment ~~including~~ (e.g., safety glasses, work boots, and hard hats) and keeps equipment in good working order per documented job safety analysis
  + Deleted key behavior descriptions:
    - 4.1.1 Is cognizant of the environment and potential hazards
    - 4.1.2 Follows established safety procedures
    - Complies with safety procedures and proper ways to perform work
    - 4.1.5 Follows safety procedures and uses safety equipment as specified by user manuals and safety training
    - 4.1.9 Keeps personal safety equipment in good working order (combined with 4.1.2.3)
    - 4.1.11 Calls attention to potential and actual hazardous conditions as they arise
    - 4.1.15 Notifies person in charge and/or co-workers of unsafe work conditions

# November 2010 Update:

## Updated model:

* Contains an additional Tier 1 competency: *Reputation*.
* Contains two additional Tier 2 competencies: *Science* and *Information Technology*.
* Contains two additional Tier 3 competencies: *Ethics* and *Employability and Entrepreneurship Skills***.**
* Contains five additional key behaviors for the Tier 4 competency, *Industry Principles and Concepts.*
* Makes significant changes to the key behaviors of three Tier 5 competencies: *Non-Nuclear Generation*, *Electric Transmission and Distribution*, and *Gas Transmission and Distribution*.

## Tier 1 New Competency

*Reputation:* Maintaining a high degree of personal ethics and behaviors

* Is free from substance abuse
* Demonstrates financial responsibility
* Maintains an acceptable grade point average in school
* Has not embarrassed oneself through internet postings
* Maintains a good driving record

## Tier 2 New Competencies

*Science:* Using scientific rules and methods to solve problems

* Discusses the role of creativity in constructing scientific questions, methods and explanations
* Formulates scientifically investigable questions, constructs investigations, collects and evaluates data and develops scientific recommendations based on findings
* Understands physical principles such as force, friction and energy
* Understands weight and mass and how it relates to rigging, wind and structure supports
* Understands and evaluates the characteristics and hazards of electricity
* Recognizes and understands the interactions of compatible and incompatible substances
* Applies basic scientific principles and technology to solve problems and complete tasks

*Information Technology*: Demonstrating basic IT skills for workplace efficiency and work flow

* Uses Personal Information Management (PIM) applications to increase workplace efficiency
* Employs technological tools to expedite workflow including word processing, databases, reports, spreadsheets, multimedia presentations, electronic calendar, contacts, email and internet applications
* Employs computer operations applications to access, create, manage, integrate, and store information
* Employs collaborative/groupware applications to facilitate group work

## Tier 3 New Competencies

*Ethics*: Describing the importance of personal ethics and legal responsibility

* Anticipates or recognizes the existence of a problem
* Evaluates and justifies decisions based on ethical reasoning
* Evaluates alternative responses to workplace situations based on personal, professional, ethical, legal responsibilities and employer policies
* Identifies and explains personal and long-term consequences of unethical or illegal behaviors in the workplace
* Interprets and explains written organizational policies and procedures

*Employability and Entrepreneurship Skills:* Defining ongoing career development

* Identifies and demonstrates positive work behaviors needed to be employable
* Develops personal career plan that includes goals, objectives and strategies
* Examines licensing, certification and industry credentialing requirements
* Maintains a career portfolio to document knowledge, skills and experience
* Evaluates and compares employment opportunities that match career goals
* Identifies and exhibits traits for retaining employment
* Identifies opportunities and researches requirements for career advancement
* Researches the benefits of ongoing professional development
* Examines and describes entrepreneurship opportunities as a career planning option

## Tier 4 Changes – Added Key Behaviors

*Industry Principles and Concepts*

* Discusses the history of the United States energy industry/infrastructure (refer to Energy Information Administration [www.eia.doe.gov](http://www.eia.doe.gov) )
* Identifies the role and function of generation, transmission and distribution organizations.
* Explains the role of regulatory bodies in the energy industry (such as: Federal Energy Regulatory Commission [www.ferc.gov](http://www.ferc.gov) ; State Public Service Commissions) highlighting the concept of “obligation to serve”
* Explains the different structures of energy companies, including investor-owned utilities, municipalities (and associated utility practices such as water/ wastewater), electric cooperatives, independent power producers and is able to explain the different lines of energy business, including electric and gas.
* Describes the process of metering and billing for energy consumption.

## Tier 5 Changes – Key Behaviors Replaced

*Non Nuclear Generation*

Electrical Science

Equipment Operation, Maintenance and Repair

Problem Solving and Decision Making

Teamwork

Replaced by:

Science and Engineering Theory and Concepts

Basic Components Knowledge

Computer Skills

*Electric Transmission and Distribution*

Electrical Science

Operations and Repair

Teamwork

Customer Focus

Replaced by:

Science and Technology

Basic Components Knowledge

Customer Focus

*Gas Transmission and Distribution*

Fundamentals of Natural Gas

Operations and Repair

Customer Focus

Replaced by:

Science and Technology

Basic Components Knowledge

Customer Focus