Standardized Task Evaluation (STE) Program

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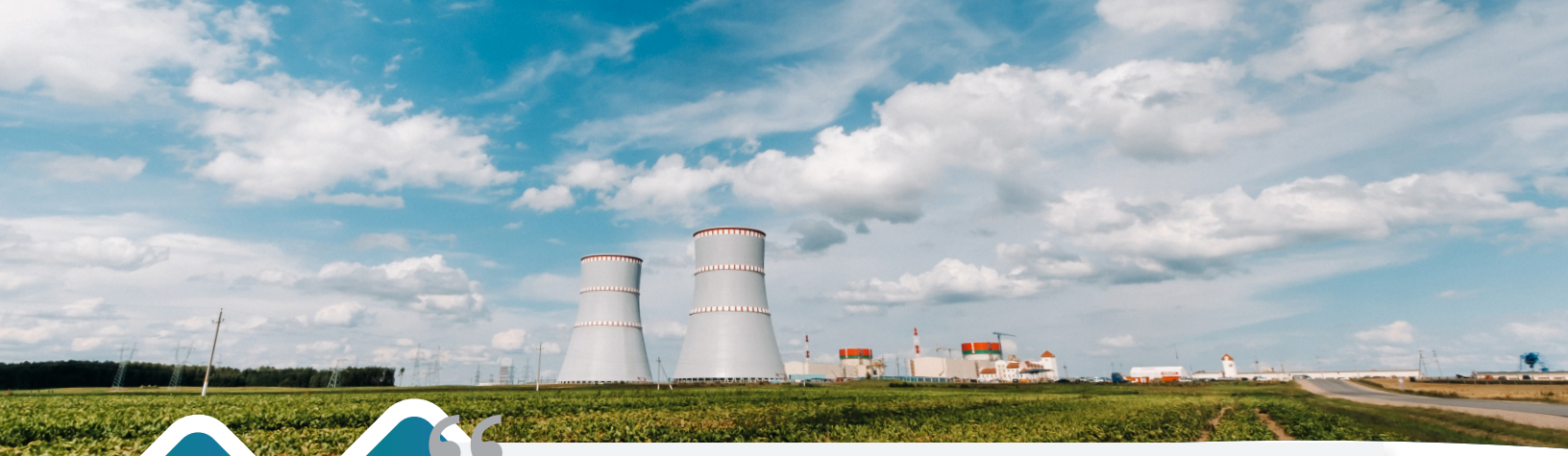

> The end goal in Nuclear is that our work is done safely, effectively, and correctly the first time. Dominion Energy has seen efficiencies in onboarding qualified maintenance and Radiation Protection workers across our Nuclear Fleet since the inception of the EPRI Standardized Task Evaluation program. Having a ready and reliable workforce has aided in our successful outage execution.
>
> —Christopher McClain, Director, Nuclear Performance Improvement, Dominion Energy

Standardized Task Evaluations

Standardized Task Evaluations, which address tasks performed by utility and supplemental workforce personnel, are developed using the Systematic Approach to Training (SAT). Each task is analyzed to determine the knowledge and skills required for performance, which are used to develop terminal and enabling objectives. Knowledge exams and performance evaluations are developed based on those objectives.

There are currently over 95 task evaluations available for our United States domestic members and more than 25 additional STEs which have been modified to meet specific needs of our Canadian members. All STE Program members are given online access to all available EPRI STEs through our STE website, https://ste.epri.com. Additional evaluations can be converted to meet international needs and standards.

Background

Qualified utility and supplemental personnel are critical to a plant's ability to safely and effectively conduct maintenance tasks and help reduce the length of outages. EPRI's Standardized Task Evaluation (STE) Program supports these efforts through a systematically developed knowledge and skills evaluation process that assesses the competency of the industry's craft and technician workforce. Program members include utilities and workforce providers, both domestic and international.

Approach

Standardized task evaluations are used to evaluate workforce competency to reliably perform the many tasks associated with operating and maintaining industry facilities.

Completion of STEs may eliminate the need for stations to train supplemental workers repeatedly on tasks as they travel to different stations to perform work. Testing to validate previous training and experience help to provide assurance a person will perform to high standards. Program implementation is achieved through knowledge

and performance evaluations, a completion registry, and program administration adhering to high industry standards.

Evaluations

Program participants continue to collaboratively develop evaluations which support prioritized industry needs. Each evaluation covers a specific task area, such as rigging or valve maintenance, and includes a cognitive exam to assess worker knowledge. In addition to knowledge verification, any skills required for task completion which were identified during the task analysis are further validated through a performance evaluation. Over 95 tasks are available for our United States domestic members and more than 25 additional STEs have been developed to meet specific needs of our Non -US members. Additional evaluations can be converted to meet international needs and standards. EPRI's Standardized Task Evaluation (STE) Program supports these efforts through a systematically developed knowledge and skill evaluation process that assesses the competency of the industry's craft and technician workforce.

EPRI Standardized Task Evaluation Program Video

Program Administration Industry Standards

If station personnel can objectively validate a supplemental worker has adequately demonstrated their proficiency for specific task(s) through knowledge and/or skill evaluation(s), then the station has the ability to objectively conclude the individual meets the qualification requirements for specific task(s) at their station. The EPRI STE process provides a method to accomplish this objective validation.

EPRI's Administration Protocol for Portable Practicals (EPRI Product 3002010576), also referred to as AP3, was developed to evaluate workforce provider practices for administering EPRI's STEs.

Under this protocol, participating work force providers are given the opportunity to have their STE programs reviewed and observed by a team comprised of utility members, workforce providers, and EPRI STE program staff. If the workforce provider meets the requirements of EPRI's Administration Protocol for Portable Practicals (AP3), they will be granted an "AP3 Compliant" rating from the EPRI STE Steering Committee.

STE Completion Registry

Results from Standardized Task Evaluations are documented in EPRI's STE Completion Registry. Participating organizations have access to EPRI's STE website which hosts the on-line registry.

This registry documents the knowledge and performance evaluation results submitted by accredited nuclear utilities or AP3 compliant workforce providers. Utilities and AP3 compliant workforce provider organizations can use the registry to verify these results. Utilities may use those results to validate task(s) proficiency of provided personnel which can aid them in granting site or utility specific qualifications. Additionally, many STE results in duty areas such as Radiation Protection can be input into the Nuclear Energy Institute's Personnel Access Data System (PADS).

As a result, workers who have passed their selected STE evaluations can arrive to a plant ready for immediate utilization.

Benefits

Availability

The availability of workers with previously completed STEs can free up training staff who would otherwise be needed to train and evaluate incoming supplemental personnel.

Work Increase

Supplemental personnel can begin working more quickly, thus reducing lead time and resulting in reduced in-processing cost.

Expansion

Nuclear plants often face challenges in securing qualified and proficient workers for outage work. By reducing the need for redundant training, the STE program can expand the pool of workers available to support more outages throughout the industry.

Motivation

The STE process shows respect for workers' demonstrated abilities and can help in worker motivation.

Efficiency

Preliminary testing to ensure worker's knowledge and skills match task requirements may result in improved performance during implementation of work activities. Improved performance results in efficient completion of tasks while minimizing the likelihood of rework.

> The Boilermakers take great pride in our training, which now includes the EPRI AP3 program. Contractors and owners are confident that Boilermakers who have completed EPRI STEs are among the most highly-trained, skilled craftspeople available. EPRI has raised the bar on our training, and the Boilermakers are excited to meet that challenge to provide a safe and talented workforce.
>
> —Mark Wertz, National Coordinator, Boilermakers National Apprenticeship Program

Library of STE's

Diagnostic Testing

DT01.01	Perform Air Operated Valve Diagnostic Testing
DT01.02	Perform Motor Operated Valve Diagnostic Testing

Electrical Maintenance

EM01.01	Read Electrical Prints
EM01.03	Clean and Inspect Electrical Equipment
EM01.03B	Use Basic Test Equipment
EM01.05	Perform Electrical Safety for Qualified Worker
EM01.06	Clean and Maintain Electrical Cabinets, MCCs, Load Centers, and Switchgears
EM02.07	Maintain Molded Case Circuit Breakers
EM03.01	Maintain Batteries
EM04.01	Test and Adjust Auxiliary and Time Delay Relays
EM04.02	Calibrate Transducers and Panel Meters
EM06.01	Apply Raychem™ HVT or NHVT Products
EM06.02	Install Grayboot Connectors
EM06.03	Perform Electrical Terminations (5kV or Less)
EM06.07	Apply Low Voltage Raychem™ Products
EM07.01	Maintain AC Motors Less Than 100 Horsepower
EM10.01A	Adjust Limitorque Switches and Verify Proper Operation
EM10.01B	Perform Periodic Inspection of Limitorque Actuators
EM10.01C	Limitorque Actuator Refurbishment

I&C Maintenance

IC01.01	Read and Interpret I&C Drawings
IC02.01	Terminate Small Electrical Conductors
IC02.02	Perform Electrical Soldering
IC03.01	Fabricate, Install and Maintain Tubing Runs Using Single Ferrule Compression, Double Ferrule Compression, and Flare Fittings
IC03.01A	Fabricate, Install and Maintain Tubing and Compression Fittings
IC03.01B	Fabricate, install and maintain tubing runs using flared fittings
IC04.01	Maintain and Calibrate General Instrumentation
IC04.04	Maintain Pressure, Level, and Flow Instrumentation
IC04.04A	Maintain Pressure Instruments, Indicators and Transmitters
IC04.04B	Maintain Level Instruments, Indicators and Transmitters
IC04.04C	Maintain Flow Instruments, Indicators, and Transmitters
IC04.05A	Maintain Water Chemistry Instrumentation
IC06.01A	Maintain AOV Positioners
IC06.01B	Maintain AOV Actuators
IC06.01C	Maintain AOV Accessories
IC08.02	Maintain Plant Security Access Control Devices and Systems

Machinist

MC02.01	Operate Lathe
MC02.02	Operate Milling Machine
MC02.03	Operate Surface Grinder
MC02.04	Operate Precision Drill Press

Mechanical Maintenance

MM02.01	Maintain Overhead Cranes
MM03.01	General Valve Maintenance
MM03.01A	Maintain Gate Valves
MM03.01B	Maintain Globe Valves
MM03.01C	Maintain Check Valves
MM03.01D	Maintain Diaphragm and 1/4 Turn Valves
MM03.02	Advanced Valve Maintenance
MM03.02A	Maintain Control Valves
MM03.02B	Maintain Pressure Seal Valves
MM03.04	Maintain Safety and Relief Valves
MM03.09	Repack a Valve
MM04.02	Maintain Mechanical Snubbers
MM05.01	Align a Shaft
MM05.02	Perform Laser Alignment
MM05.05A	Maintain Positive Displacement, Rotary Type Pumps
MM05.06	Maintain Centrifugal Pumps
MM05.08	Maintain Bearings
MM05.08A	Maintain Antifriction Bearings (Rolling Contact Bearing)

MM05.09	Repack a Pump
MM05.10	Maintain Air Compressors
MM05.13	Maintain Drive Couplings
MM06.01	Maintain Mechanical Seals
MM07.01	Maintain Heat Exchangers

Mechanical Maintenance Continued

MM08.02	Maintain Filters and Strainers
MM12.01	Use Precision Measuring and Test Equipment
MM12.02	Maintain Sight Glasses
MM13.02	Fabricate gaskets
MM14.01	Operate Hydraulic Torque Tools

Pipefitter

PF01.02	Fabricate, Modify, and Install Flanged and Un-flanged Spools of Threaded Pipe
PF01.03	Fabricate, Modify, and Install Flanged and Un-flanged Spools of Welded Pipe

Radiation Protection

RP00.01	Junior RP Technician Fundamentals Exam
RP00.02	Senior RP Technician Fundamentals Exam
RP02.01	Operate Portable Radiological Survey Instruments
RP02.02	Perform Radiation and Contamination Monitoring
RP02.03	Collect and Evaluate Radiological Air Samples
RP02.04	Post Low Level Radiological Hazards
RP02.05	Control Access to High Radiation Areas
RP02.06	Monitor Personnel Contamination
RP02.07	Control Radioactive Material Within an RCA
RP02.08	Control HEPA Vacuums and Ventilation Equipment
RP02.10	Perform Low Risk Radiological Job Coverage
RP03.04	Radiological Posting of HRA, LHRA, and VHRA
RP03.05	Control Access to a Locked High Radiation Area
RP03.06	Unconditionally Release Personnel Following Valid Contamination Monitor Alarms
RP03.07	Unconditionally Release Materials from an RCA
RP03.09	Support Radiography Job Coverage
RP03.10	Perform High Risk Radiological Job Coverage

Welder

WD02.01	Perform Basic Structural Welding

Work Planning

WP02.01	Perform Work Planner Activities

Cross-Discipline

XD01.02	Perform Confined Space Entry and Attendance Duties
XD01.03	Demonstrate Industrial Safety Techniques (Portable Tool Use/ Inspection and other OSHA Training Requirements)
XD01.04	Perform Foreign Material Exclusion Activities
XD02.01	Install and Torque Fasteners
XD02.02	Installation of Concrete Expansion Anchors
XD03.01	Perform Standard Rigging
XD03.03	Operate Overhead Cranes
XD03.04	Operate a Forklift
XD03.07	Operate Overhead/Underhung Hoists
XD03.08	Operate Aerial Work Platforms
XD03.09	Perform Industrial Rigging
XD03.10	Perform Signal Person Duties
XD03.11	Operate a Telehandler
XD03.12	Perform Standard Rigging and Signaling
XD03.13	Perform Industrial Rigging and Signaling
XD04.01	Lift and Land Electrical Leads
XD05.01	Erect Scaffolding
XD05.02	Use Fall Protection Equipment

Note: STEs on this list may be temporarily unavailable during periodic reviews.

Additionally, members should refer to the EPRI STE website for complete list of available STEs, as new STEs are continually being developed and made available to EPRI STE program members.

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EPRI also provides technology, policy and economic analyses to drive long-range research and development planning, and supports research in emerging technologies. EPRI's members represent approximately 90 percent of the electricity generated and delivered in the United States, and international participation extends to more than 30 countries. EPRI's principal offices and laboratories are located in Palo Alto, CA; Charlotte, NC; Knoxville, TN; and Lenox, MA.

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