Background
Westinghouse Training and Operational Services can help customers achieve their goal of having a well-trained staff, which is essential for the safe and effective operation of a power plant. By using a blended student-centered learning system, which Westinghouse calls NucLearning, each student is an active participant in the learning process.

NucLearning

Description
Westinghouse Training and Operational Services offers training in the following areas:

- Introductory Pressurized Water Reactor (PWR) and Boiling Water Reactor (BWR) Courses – These courses provide introductory systems training on both of these reactor types
- Senior Reactor Operator (SRO) Equivalency Certification Program – This program is designed to give qualified/experienced students knowledge and skills similar to those of an SRO on a Westinghouse Standardized Nuclear Unit Power Plant system
- Reactor Engineering Programs – These training programs are designed for PWR operations, start-up and refueling engineers with all levels of experience
- Refueling Programs – The refueling equipment classes consist of classroom presentations on selected refueling equipment, followed by hands-on operation of that equipment under dry, non-contaminated conditions
- Refueling Tool Maintenance Programs – The refueling tool maintenance courses offer a unique combination of classroom instruction and hands-on training to allow the student to immediately apply the classroom instruction to refueling tool maintenance situations
- Safety and Accident Management Programs – These programs provide instruction to plant technical personnel in the areas of nuclear plant safety and accident management guidelines
- Analog Instrumentation and Control System Courses – These courses provide plant engineering and technical personnel with classroom and hands-on instruction in PWR and BWR analog nuclear power plant instrumentation, operations and maintenance
- Digital Instrumentation and Control System Courses – The digital systems courses teach digital and microprocessor-based power plant equipment theory, operations and maintenance to technical and engineering personnel
- Distributed Process System Courses – These courses provide plant operations, technical and engineering personnel with introductory and advanced instruction in operating, configuring and maintaining Westinghouse distributed process equipment
- Boiling Water Reactor Instrumentation and Control Courses – The BWR instrumentation courses use classroom and hands-on instructional techniques to train instrumentation and control engineers and technicians to operate and maintain plant equipment

All of these courses include problem solving and troubleshooting as a key component of the learning process.

List of Courses
Training and Operational Services offers courses in both blended online learning and face-to-face delivery formats:

Blended Online Learning Courses
- Nuclear Instrumentation System*
- Rod Control System*
- Digital Rod Position Indication System*
- Solid State Protection System*
- 7300 Process Instrumentation*
Nuclear Process Control Fundamentals
Introduction to the Nuclear Power Industry
Station Nuclear Engineer
*Includes 40 hours of hands-on troubleshooting

Face-to-Face Vintage I&C Systems Courses
- 7300 Process Instrumentation
- 7300 Application-Specific Integrated Circuits
- Process Instrumentation Scaling
- Nuclear Instrumentation System
- Incore Instrumentation System
- Nuclear Instrumentation Detectors
- Solid-State Protection System
- Rod Control System
- Digital Rod Position Indicating System

Digital Systems
- Digital Metal-Impact Monitoring System
- Computer Enhanced Rod Position Indication System
- Inadequate Core Cooling Monitor System
- Reactor Vessel Level Indication System
- Reactor Vessel Level Indication System Hydraulics
- ATWS Mitigation System Actuation Circuitry (AMSAC)
- Eagle 21

Ovation® and Common Q™ Platform Courses
- Ovation System Overview
- Ovation Process Control
- Common Q Family Courses

Reactor Engineering Courses
- Station Nuclear Engineer Applications (for Combustion Engineering and Westinghouse plants)
- Advanced Station Nuclear Engineer Refresher
- Reactor Engineering Training Program
- Shift Technical Advisor Training Seminars

Safety/Accident Management Courses
- PWR Accident Analysis and Mitigating Core Damage
- Emergency Response Guidelines
- Emergency Operating Procedures Refresher
- Introduction to Severe Accident Management
- Severe Accident Management

PWR Information and Operations Courses
- Introduction to Pressurized Water Reactors
- Introduction to Boiling Water Reactors
- Introduction to Power Plant Operations
- Senior Reactor Operator (SRO) Equivalency Certification
- Executive PWR Information

Maintenance Courses
- Refueling Equipment
- Advanced Refueling Equipment
- Advanced Refueling Equipment

BWR Instrumentation and Control
- Nuclear Instrumentation System
- Traversing Incore Probe System
- BWR Systems for I&C Technicians

New Plant Training
- AP1000® Information Course

Customized Courses
- At the customer’s request Westinghouse can develop courses to meet individualized training needs.

For additional course information, visit our website: www.training.westinghousenuclear.com.

Benefits

Westinghouse’s programs use a combination of multimedia presentation tools, online learning, hands-on training equipment, simulation, training mock-ups, and challenging learning activities to place the student at the center of the learning process. The following learning tools are also featured at the Westinghouse site:

- The Westinghouse Standardized Nuclear Unit Power Plant System control room simulator is a full-scope, plant- replica simulator that runs advanced simulation models. This recently upgraded simulator enables students to perform normal plant evolutions as well as to evaluate and respond to all Final Safety Analysis Report accidents and potentially core-damaging, multi-failure events.
- The Advanced Tooling Readiness Center (ATRC) contains training mockups and actual nuclear plant components in a radiation-free environment.
- The Mobile Instrumentation Training Units and stand-alone training equipment allow Westinghouse trainers to provide hands-on instrumentation and control training at the customer site. Using this equipment, students can develop the skills they need to operate and maintain the instrumentation and control systems found at the plant.

The Westinghouse Training and Operational Services staff includes adult educators, certified Senior Reactor Operator Instructors, expert I&C trainers, engineers, and training support specialists.

The Westinghouse instructors use the latest student-centered learning and online education methods. All courses are objective-based and are developed and taught using Instructional Systems Design techniques that meet the Institute of Nuclear Power Operations (INPO) Guidelines. Courses are delivered at the customer’s site, at the Westinghouse training facilities or online.

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