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PREVENTIVE MAINTENANCE LESSON TITLES

Predictive and Preventive Maintenance Series

Production Excellence through Predictive
and Preventive Maintenance
Operator-Driven Predictive and Preventive Maintenance
Clean Phase
Inspect Phase
Tools and Fasteners
Adjust Phase
Lubricate Phase
Operate Phase



MECHANICAL LESSON TITLES

Mechanical Fundamentals Series

Mechanical Principles and Theory: Force Mechanical Principles and Theory: Work Mechanical Principles and Theory: Rate Mechanical Principles and Theory: Power

Mechanical Principles and Theory: Simple Machines

Mechanical Diagram Reading Series

Blueprint Reading

Bearing Series

Bearing Fundamentals Bearing Removal and Installation Bearing Maintenance

Gear Series

Gears
Gearbox Fundamentals
Gear Drive Maintenance
Gearbox Procedures
(CUSTOMIZED)

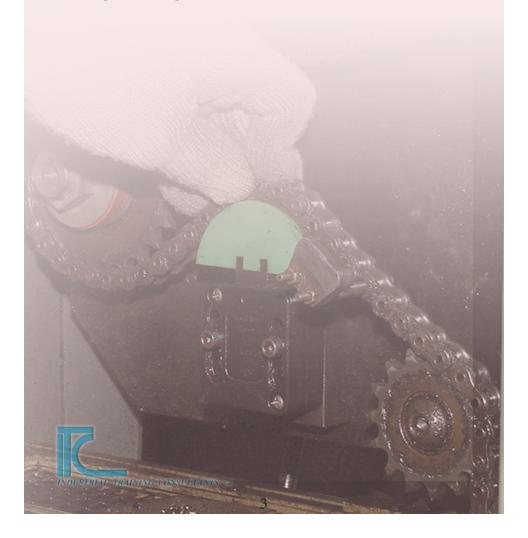


Belt Drive Series

Belt Drive Fundamentals Belt Drive Maintenance Belt Drive Procedures

Chain Drive Series

Chain Drive Fundamentals Chain Drive Operation Basic Chain Drive Maintenance Specialized Chains Specialized Sprockets



Coupling Series

Coupling Fundamentals

Coupling Installation and Maintenance

Advanced Couplings: The Oil and Gas Industry

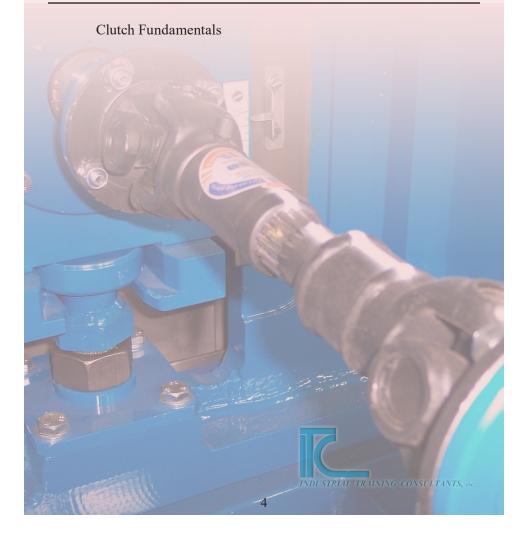
Fluid Couplings: Voith Turbo Coupling with Disk Pack

Shaft Series

Shaft Fundamentals

Shafts: Tolerances, Alignment, and Motor Speed

Clutch Series



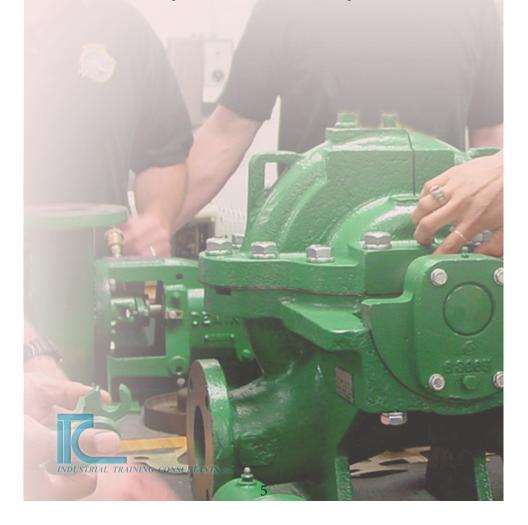
Pump Series

Pump Fundamentals Pump Operating Principles and Curves Centrifugal Pumps Positive Displacement Pumps

NOTE: AT THE REQUEST OF THE CLIENT, CUSTOMIZED INSTALLATION AND MAINTENANCE LESSONS ARE ALSO AVAILABLE FOR THE FOLLOWING SPECIFIC PUMP TYPES:

- Multistage Centrifugal Pumps
- Regenerative (Peripheral) Pumps
- Plunger Pumps
- Diaphragm Pumps
- Lobular Pumps

- Screw Pumps
- Lift Pumps
- Piston Pumps
- Internal & External Gear Pumps
- Vane Pumps



Vacuum Pump Series

Vacuum Pump Fundamentals
Blower Vacuum Pumps
(CUSTOMIZED)
Liquid Ring Vacuum Pumps
Liquid Ring Vacuum Pumps: Nash Vectra XL

Seals Series

Static And Dynamic Seals
Mechanical Seal Fundamentals
Mechanical Seal Maintenance
(CUSTOMIZED)

Packing Series

Packing

Lubrication Series

Mechanical Lubrication Fundamentals

Mechanical Lubrication Components and Systems
(IN DEVELOPMENT)

Mechanical Lubrication Advanced
Principles, Chemistry, and Process
(IN DEVELOPMENT)

Mechanical Lubrication Maintenance Procedures
(IN DEVELOPMENT)



Measurement Series

Mechanical Measurement: Tape Measures and Steel Rules

Precision Measurement I: Gauging Precision Measurement II: Shafts

(IN DEVELOPMENT)

Precision Measurement III: Dial Calipers and Micrometers (IN DEVELOPMENT)

Torque Series

Torque II

Rigging Series

Rigging: Basic Components

Rigging: Basic Rigging Procedures

Fasteners Series

Fasteners Advanced Fasteners I Advanced Fasteners II

Hand Tools Series

Hand Tools II Hand Tools III

Power Tools Series

Power Tools I: Drills Power Tools II: Saws

Power Tools III: Sanders, Grinders, Impact Wrenches,

and Power Hammers



HYDRAULICS LESSON TITLES

Hydraulic Fundamentals Series

Hydrodynamics
Principles of Hydraulic Fluids
Hydraulic Systems Fundamentals: Components

Hydraulic Diagram Reading Series

Hydraulic Symbols I: Fluid Containment and
Power Conversion Devices
Hydraulic Symbols II: Control and Measuring Devices
Hydraulic Schematic Diagrams
(CUSTOMIZED)

Hydraulic Reservoir Series

Hydraulic Reservoirs Reservoir Variables and Maintenance

Hydraulic Pump Series

Hydraulic Pump Fundamentals: Operation Hydraulic Pump Fundamentals: Classifications Hydraulic Pump Installation and Maintenance

Hydraulic Valve Series

Directional-Control Valves Pressure-Control Valves Flow-Control Valves

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Cylinder Series

Hydraulic Cylinder Fundamentals: Operation
Hydraulic Cylinder Fundamentals: Components
Hydraulic Cylinder Types
Hydraulic Cylinder Maintenance
(CUSTOMIZED)
Hydraulic Cylinder Assembly and Disassembly
(CUSTOMIZED)

Hydraulic Motor Series

Hydraulic Motor Fundamentals Hydraulic Motor Installation and Maintenance

Hydraulic Lines and Fittings Series

Hydraulic Lines and Fittings: Fundamentals Hydraulic Lines and Fittings: Maintenance and Installation

Filtration Series

Principles of Fluid Filtration Hydraulic Filtration Devices

Accumulator Series

Hydraulic Accumulators

Measuring Devices Series

Pressure Gauges Flow Gauges Temperature Gauges



Hydraulic Circuits Series

Principles of Basic Hydraulic Circuits
Complex Hydraulic Circuits, Part 1
(CUSTOMIZED)
Complex Hydraulic Circuits, Part 2
(CUSTOMIZED)
Complex Hydraulic Circuits, Part 3
(CUSTOMIZED)
Complex Hydraulic Circuits, Part 4
(CUSTOMIZED)

Temperature Management Series

Temperature Management

Complete System Maintenance Series (CUSTOMIZED)

Installing Hydraulic Components Routine Maintenance Hydraulic System Troubleshooting



PNEUMATICSLESSON TITLES

Pneumatic Fundamentals Series

Fundamentals of a Pneumatic System Pneumatic Principles and Theory

Pneumatic Diagram Reading Series

Pneumatic Symbols
Pneumatic Circuits
Pneumatic Schematic Diagrams
(CUSTOMIZED)

Pneumatic Air Handling Series

Pneumatic Air Preparation
(IN DEVELOPMENT)
Pneumatic Air Distribution
Installation and Maintenance of Pneumatic Lines

Pneumatic Valves Series

Pneumatic Valves and Operators

Pneumatic Actuators Series

Pneumatic Actuators: Linear

(IN DEVELOPMENT)

Pneumatic Actuators: Rotary

Pneumatic Actuators: Vacuum Generators

Pneumatic Actuator Maintenance

(CUSTOMIZED)



Pneumatic Compressors Series

Pneumatic Compressor Fundamentals
Positive-Displacement Compressors
Liquid Ring Compressors: Garo
Rotary Screw: Atlas Copco Oil-Free
Dynamic Compressor Fundamentals
(CUSTOMIZED)
Nash HP-9 Liquid Ring Compressor

Pneumatic Fans Series

Fan Fundamentals Centrifugal Fans

Pneumatic Troubleshooting Series (CUSTOMIZED)

Preventative Maintenance of a Pneumatic System Pneumatic Troubleshooting



ELECTRICALLESSON TITLES

Electrical Fundamentals Series

Electrical Theory and Principles Electrical Theory: Magnetism

Electrical Diagram Reading Series (IN DEVELOPMENT)

Electrical Diagrams Overview

Electrical Diagrams I: Block Diagrams

and Single-Line Diagrams

Electrical Diagrams II: Schematic Diagrams Electrical Diagrams III: Wiring Diagrams

Electrical Diagrams IV: Interconnection Diagrams

Basic Electrical Circuits Series (IN DEVELOPMENT)

Series Circuits
Parallel Circuits
Series-Parallel Circuits



Circuit Protection Series (IN DEVELOPMENT)

Grounding

De-Energizing Circuits: Overload Relays and Contactors

Circuit Protection I: Circuit Breakers

Circuit Protection II: Fuses

Circuit Components Series

Relays I: Basic Principles and Protective Relays

(IN DEVELOPMENT)

Relays III: Overload Relays

(IN DEVELOPMENT)

Relays IV: Time-Delay Relays

(IN DEVELOPMENT)

Relays V: Solid-State Relays

(IN DEVELOPMENT)

Switches I: Fundamentals

Switches II: Selector Switches and Limit Switches

Switches III: Photoelectric Switches

Switches IV: Proximity Switches

Timers

(IN DEVELOPMENT)

Transformers Fundamentals and Principles

(IN DEVELOPMENT)

Transformers Types

(IN DEVELOPMENT)



Circuit Testing Devices Series

Electrical Tools

Measurement Device Fundamentals

(IN DEVELOPMENT)

Measurement Devices: Electrical Quantities

(IN DEVELOPMENT)

Testing Devices I: Multimeters

(IN DEVELOPMENT)

Testing Devices II: Oscilloscopes

(IN DEVELOPMENT)

Cables and Conduits Series

Cables and Conductors (IN DEVELOPMENT)

Conduit I: Fundamentals

AC/DC Circuit Series (IN DEVELOPMENT)

AC Circuit Theory DC Circuit Theory and Principles

Motor Performance Series (IN DEVELOPMENT)

Motor Theory and Principles Motor Speed and Torque

Motor Performance: Nameplate Efficiency

Motor Performance: Efficiency, Load, and Power

Motor Starters and Controllers Series (IN DEVELOPMENT)

Motors: Starters Fundamenetals Motors: Magnetic Starters

Motors: Starting Under Reduced Voltage/Reduced Current

Motor Control I: Manual Motor Control

AC Motor Controllers

Motor Types Series

AC Motors I: Fundamentals

AC Motors II: Fractional-Horsepower Motors
AC Motors III: Three-Phase Induction Motors
(CUSTOMIZED)

AC Motors IV: Squirrel-Cage Motors (CUSTOMIZED)

DC Motors I: Fundamentals

DC Motors II: Shunt and Compound Motors

Variable-Speed Drives (VSD)

AC Generator Series (IN DEVELOPMENT)

AC Generators I: Overview

Power Distribution Series (IN DEVELOPMENT)

Power Distribution I: Fundamentals

Power Distribution II: Electric Power Substations

Uninterruptible Power Supply Series

Uninterruptible Power Supply Fundamentals
Uninterruptible Power Supply Safety, Control, and Operation
(CUSTOMIZED)

Battery Series (IN DEVELOPMENT)

Battery System
Battery Chargers

Panels and Switchgears Series

Control Panels Low-Voltage Switchgear Medium-Voltage Switchgear High-Voltage Switchgear



Instrumentation & Process Control LESSON TITLES

Process Control Diagram Reading Series

Introduction to Piping and Instrumentation Diagrams
Basic Piping and Instrumentation Diagram Reading
Piping and Instrumentation Diagram Process Flows
Piping and Instrumentation Diagram Equipment Symbols
Process Control Loops

Valve Series

Control Valve Fundamentals
Butterfly Valves and Ball Valves
Globe Valves and Diaphragm Valves
Solenoid Valves
Pressure Control and Safety Relief Valves
Control Valve Actuators

Transmitters Series

Process Variable Transmitters

Distributed Control System (DCS) Series (CUSTOMIZED)

DCS Basic Operation, Part I DCS Basic Operation, Part II



PIPE FITTING LESSON TITLES

Piping Fundamentals Series

Piping Basics

Pipe Diagram Reading Series

Piping Diagram Fundamentals Piping Diagram Symbols

Pipe Fitting Series (IN DEVELOPMENT)

Tube Fittings Hose Fittings



MATH **LESSON TITLES**

Math Fundamentals Series (IN DEVELOPMENT)

Basic Math I: Decimals and Fractions

Basic Math II: Comparisons

Metric Measurement Series (IN DEVELOPMENT)

The Metric System

Algebra Series (IN DEVELOPMENT)

Basic Algebra I: Expressions

Basic Algebra II: Linear Equations and Inequalities Basic Algebra III: Quadratic Equations, Polynomials,

and Rational Expressions

Geometry Series (IN DEVELOPMENT)

Basic Geometry I: Two-Dimensional Figures Basic Geometry II: Two-Dimensional Shapes Basic Geometry III: Three-Dimensional Thinking



TECHNICAL ACADEMICS LESSON TITLES

Basic Chemistry Series

Introduction to Chemistry: History and Disciplines

Introduction to Chemistry: The Atom

Introduction to Chemistry: Acids and Bases

(IN DEVELOPMENT)

Introduction to Chemistry: Chemical Formulas and Reactions

(IN DEVELOPMENT)

Introduction to Chemistry: The Periodic Table

(IN DEVELOPMENT)

Organic Chemistry Series (IN DEVELOPMENT)

Basics and Principles of Organic Chemistry

Advanced Principles of Organic Chemistry: Organic Compounds

Naming and Identifying Organic Compounds

Advanced Principles of Organic Chemistry: Biochemicals

Basic Organic Chemical Reactions

Advanced Organic Chemical Reactions

Fundamentals and Petroleum and Petrochemicals



Thermodynamics Series

Principles of Thermodynamics Heat The Laws of Thermodynamics (IN DEVELOPMENT)

Fluid Dynamics Series

Fluid Dynamics

Steam Series (IN DEVELOPMENT)

Steam Principles and Theory Steam Tables

Quality Control Series (IN DEVELOPMENT)

Basic Principles of Quality Control Quality Control System Elements

Statistical Process Control Series (IN DEVELOPMENT)

Statistical Process Control



Steam-Assisted Gravity Drainage (SAGD) Principles and Concepts Series (CUSTOMIZED)

Oil Sands Introduction SAGD Theory **Emulsion Theory** Phase-Separation Theory Gas-Assisted Flotation Theory Water Clarification Theory Water Clarification Chemistry Decanter Centrifuge Theory Media Bed Filtration Theory Ion Exchange Theory **Evaporation and Condensation Theory Evaporation and Condensation Variables** Heat Transfer, Steam, and Heat Recovery Theory Combustion Theory Flue Gas and Emissions Theory Gas Turbine Theory Power Generation Theory Power Distribution Theory

Solar Power Generation

Solar Power Generation Overview
(IN DEVELOPMENT)

Photovoltaic Cell Theory
(IN DEVELOPMENT)

Photovoltaic Cell Operation

Natural Gas Processing (NGP) Series (CUSTOMIZED)

Liquefied Natural Gas Processing (LNGP) Series (CUSTOMIZED)

Amine Sweetening and Sulfur Recovery Series (CUSTOMIZED)

Hydrogen Sulfide Series

Hydrogen Sulfide Physical Characteristics and Properties

Drilling Rig Series (CUSTOMIZED)

Diesel Engine Operating Principles
Generator Operating Principles
Electrical Theory and Principles
Principles of Magnetism
Drilling Mud Principles
Principles of Kicks and Blowouts
Accumulator: Principles



Petroleum Corrosion Series

Corrosion and Chemistry Basics Metals and Corrosion Corrosion Types: Galvanic (IN DEVELOPMENT) Corrosion Prevention (IN DEVELOPMENT)

Natural Gas Hydrates Series

Natural Gas Hydrates Fundamentals Natural Gas Hydrates Physical Properties Natural Gas Hydrates Prevention Natural Gas Hydrates Inhibitors

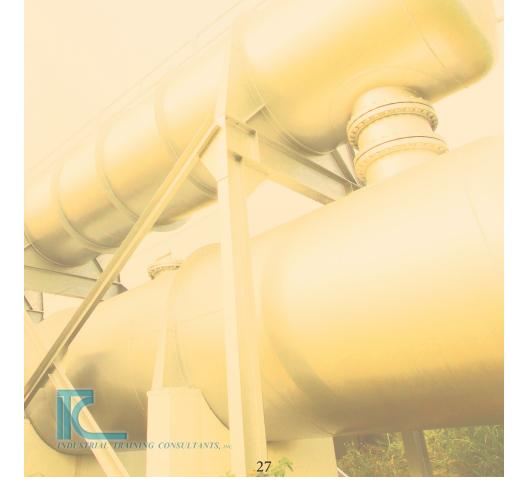
Desalination Series (CUSTOMIZED)



Heat Exchanger Series

Fired Heaters/Furnaces Combustion Principles

Heat Exchangers Overview
Heat Transfer Principles
Heat Exchanger Operating Principles
Shell-and-Tube Heat Exchangers
Plate Heat Exchangers
Condensers and Reboilers
Boiling and Condensing Principles
Cooling Tower Principles and Components
Cooling Tower Operation and Water Treatment
Air-Cooled Heat Exchangers



SAFETYLESSON TITLES

Occupational Health and Safety Administration (OSHA) 1910 Safety Series

Hazard Communication

Hearing Conservation

Respiratory Protection

Confined Space Entry

Lockout/Tagout

Fire Safety

Electrical Awareness

Electrical Safety

Hazardous Material (Hazmat) Awareness

Fall Safety

Laboratory Safety

Ergonomic Safety

Crane Safety

Forklift Awareness

Forklift Safety

Bloodborne Pathogens

Lead Awareness

PSM Awareness

Radiation Awareness

Emergency Planning and Response

Asbestos Awareness

Advanced Electrical Safety

Hazardous Materials Table

Personal Protective Equipment

Emergency Response Awareness

Hand and Power Tool Safety

Office Safety

High-Voltage Electrical Safety

Knife Safety



OSHA 1926 Construction Safety Series (CUSTOMIZED)

Hazard Communication

Noise Exposure and Hearing Conservation

Respiratory Protection

Confined Space Entry

Fire Safety

Radiation Awareness

Hand and Power Tool Safety

Fall Safety

Scaffold Safety and Awareness

Advanced Scaffold Safety

Crane and Derrick Safety

Hoist, Elevator, Conveyor, and Aerial Lift Safety

Hazardous Waste Operations and Emergency Response (HAZWOPER)

Personal Protective and Lifesaving Equipment

Emergency Action Plans

Lead Awareness

Process Safety Management of Highly Hazardous Chemicals (PSM Awareness)

Electrical Awareness

Electrical Safety

Forklift Awareness

Forklift Safety

Signs, Flaggers, and Barricades

Materials Handling, Storage, Use, and Disposal

Welding and Cutting Safety

Concrete and Masonry Construction

Steel Erection

Power Transmission and Distribution

Asbestos Awareness

Toxic and Hazardous Substances

Excavations and Demolitions



Alberta (Canada) Occupational Health and Safety (AOHS) Series

Hazard Assessment, Elimination, and Control

Chemical Hazards, Biological Hazards, and Harmful Substances

Asbestos Awareness

Lead Awareness

Confined Space Safety

Confined Spaces: Entry and Exit

Cranes, Hoists, and Lifting Devices: General Requirements

Cranes Safety

Hoists and Lifting Devices Safety

Emergency Preparedness and Response

Entrances, Walkways, Stairways, and Ladders

Fall Safety

Fall Protection

Fire Safety

Fire and Explosive Hazards

First Aid

General Safety Precautions

Lifting and Handling Loads

Managing the Control of Hazardous Energy

Noise Exposure

Overhead Power Lines

Personal Protective Equipment, Part 1

Personal Protective Equipment, Part 2

Powered Mobile Equipment

Radiation Awareness and Exposure

Rigging Safety

Safeguards

Scaffolds and Temporary Work Platforms

Scaffold Safety

Tools, Equipment, and Machinery

Explosive Safety

Explosive Safety: Application

Oil and Gas Wells

Utility Workers—Electrical



Electrical Safety Fundamentals Series

Electrical Awareness Electrical Safety

High-Voltage Electrical Safety (IN DEVELOPMENT)

NFPA 70E: Advanced Electrical Safety

Work-Related Hazards

Safety Preparations

Lockout/Tagout

Enclosed Spaces

Fall Safety

Work with or Near Electric Lines and Equipment

Line and Equipment De-Energization

Testing

Mechanical Equipment

Overhead Lines

Line-Clearance Tree Trimming Operations

Communication Facilities

Underground Electrical Installations

Substations

Power Generation

Special Conditions



CIVIL DEFENSE LESSON TITLES

Emergency Preparedness and Response Series (CUSTOMIZED)

Emergency Preparedness and Prevention
Emergency Supplies
Emergency Response Fundamentals
Personal Protective Equipment (PPE) for First Responders
Emergency Communications
Emergency Evacuation
Crisis Management and Disaster Recovery

Medical Emergency Preparation and Response Series (CUSTOMIZED)

Medical Emergency Prevention and Preparation First Aid Kit Calling for Help Medical Emergency Response Basic Life Support



Firefighting Series

Fire Principles and Combustion Theory (IN DEVELOPMENT)

Fire Classification and Fire Extinguishers (CUSTOMIZED)

Firefighting Safety

(CUSTOMIZED)

Firefighting Equipment (CUSTOMIZED)

Firefighting Vehicles (CUSTOMIZED)

Firefighting Techniques (CUSTOMIZED)

Firefighting Procedures (CUSTOMIZED)

Natural Disaster Response Series (CUSTOMIZED)

Natural Disaster Overview
Storm Fundamentals and Response
Sandstorm Fundamentals and Response
Drought Fundamentals and Response
Flood Fundamentals and Response
Extreme Temperature Fundamentals and Response
Landslide Fundamentals and Response
Sinkhole Fundamentals and Response
Pandemic Fundamentals and Response

Man-Made Disaster Response Series (CUSTOMIZED)

Man-Made Disaster Overview Industrial Accident Response Transport Accident Response Pollution Accident Response Chemical Accident Response Biological Accident Response Radiological Accident Response

Homeland Security Series (CUSTOMIZED)

Threat and Risk Assessment
Chemical Threat Fundamentals and Response
Biological Threat Fundamentals and Response
Radiological Threat Fundamentals and Response
Nuclear Threat Fundamentals and Response
Bomb Threat Fundamentals and Response
Active Shooter Fundamentals and Response



Transportation Incident Emergency Response Series

Transportation Emergency Response Fundamentals (CUSTOMIZED)

Safety Precautions

(CUSTOMIZED)

Protective Clothing Levels and Materials
(IN DEVELOPMENT)

Protective Clothing Inspection Procedures (IN DEVELOPMENT)

Protective Clothing Donning, Doffing, and Decontamination Procedures
(IN DEVELOPMENT)

Respiratory Protection (CUSTOMIZED)

Scene Management

(CUSTOMIZED)

Protective Action

(CUSTOMIZED)

Hazardous Materials and Wastes (CUSTOMIZED)

Hazard Identification

(CUSTOMIZED)

Instrument Usage (IN DEVELOPMENT)

Sample Collection

(IN DEVELOPMENT)

Material Analysis

(IN DEVELOPMENT)

Material-Specific Emergency Response (CUSTOMIZED)

Environmental Health

(CUSTOMIZED)

Chemical, Biological, and Radiological Attacks (CUSTOMIZED)

Chemical Incident Hazards

(CUSTOMIZED)

Hazardous Materials Shipping Specifications (CUSTOMIZED)

Pipeline Transportation (CUSTOMIZED)

INDUSTRIAL TRAINING CONSULTANTS.

Educational Support Software:

e-XpertTM Troubleshooting Software

Pump PathfinderTM Learning Management System Software

SurveyorTM Needs Assessment Software

Knowledge Management Software





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