Educational Services
Maximize your investment with well trained personnel
Your choice of location – On-site or at Emerson’s Centers of Excellence

Training at Emerson’s center of excellence offer opportunity to experience a wide range of products in dedicated service and manufacturing environment. Training on-site offers opportunity schedule trainings at your location and minimize travel costs and incidentals. Course Offerings:

- Product Maintenance Training
- PRM Lifecycle Growth Initiatives

ASK for comprehensive FREE proposal!

On-Site Training

In most cases workshop content can be tailored towards your specific plant, equipment and/or conditions. One of our instructors will come to your venue anywhere in Asia-Pacific! It’s affordable, effective, convenient and much easier than you may have thought.

Professional Instructors

All Emerson instructors are chosen from among the finest exponents in their subject fields and are certified by our parent company located in Austin, Texas, USA. They are experienced, knowledgeable engineers with expertise in teaching techniques.

Experience Counts

Emerson Automation Solutions has extensive experience and expertise in running technical training courses that are practical and relevant to industry needs.

Our workshops are all comprehensive hands-on learning experiences with more than 50% practical sessions and demonstrations. We communicate well to ensure that workshop content and timing match the knowledge, skills and abilities of the participants.
## PRM Training Cost and Course Codes

### Asia Pacific Region – Offsite Training For All PRM Training Course Codes As Required

#### Asia Pacific Region Training Course List – Pressure Relief Valves

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Course Code</th>
<th>Course Fee</th>
<th>Location</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification Program for Shop Technicians (ASME VIII - Direct Spring-Loaded Pressure Relief Valves)</td>
<td>PRV 001</td>
<td>USD 600 Day/Pax</td>
<td>Singapore-Gul Workshop (Min. 5-8 Pax)</td>
<td>5 Days</td>
</tr>
<tr>
<td>Certification Program for Shop Technicians (ASME VIII - Pilot Operated Pressure Relief Valves)</td>
<td>PRV 002</td>
<td>USD 600 Day/Pax</td>
<td>Singapore-Gul Workshop (Min. 5-8 Pax)</td>
<td>5 Days</td>
</tr>
<tr>
<td>Certification Program for Field Service Engineer (ASME I - Boiler Safety Valves &amp; Field Equipment)</td>
<td>PRV 003</td>
<td>USD 750 Day/Pax</td>
<td>Singapore-Gul Workshop (Min. 5-8 Pax)</td>
<td>5 Days</td>
</tr>
<tr>
<td>Certification Program for LCS Proactive Growth Site Walkdown Practices, Criticality Assessment, Asset Management, STO Pursuit</td>
<td>PRV 004</td>
<td>Free of Charge</td>
<td>LBP/ASP Site with real time sitewalk survey at critical sites</td>
<td>3-5 Days</td>
</tr>
</tbody>
</table>

#### Asia Pacific Region Training Course List Industrial & Natural Gas Regulators

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Course Code</th>
<th>Course Fee</th>
<th>Location</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification Program for Technicians and Field Engineers (IND REG)</td>
<td>IND REG 005</td>
<td>USD 600 Day/Pax</td>
<td>Singapore-Gul Workshop (Min. 5-8 Pax)</td>
<td>5 Days</td>
</tr>
<tr>
<td>Certification Program for Natural Gas Skid Applications</td>
<td>IND NGT 006</td>
<td>USD 600 Day/Pax</td>
<td>Singapore-Gul Workshop (Min. 5-8 Pax)</td>
<td>2 Days</td>
</tr>
<tr>
<td>Certification Program for Technicians and Field Engineers for Low-Pressure Tank Pressure Vacuum Relief Valves, Emergency Relief Vents and Flame Arresters</td>
<td>TM 007</td>
<td>USD 600 Day/Pax</td>
<td>Singapore-Gul Workshop (Min. 5-8 Pax)</td>
<td>4 Days</td>
</tr>
</tbody>
</table>

### Certification Program for Shop Technicians (ASME VIII - Direct Spring-Loaded Pressure Relief Valves)

**Course Code:** PRV 001

**Duration:** 5 Days

**Prerequisite:**
- 6 months to 1 year of on-the-job experience as a service engineer or technician.

**Description:**
- To provide a hands-on oriented training program developed for Service Technicians and Field Engineers to build competency in handling Safety Relief Valve (SRV) servicing work and to instill independence and confidence to address basic to intermediate type of SRV maintenance needs.
- Participants will undergo theoretical classroom session, practical workshop sessions, theory & practical test assessment in accordance the ASME boiler and pressure vessel codes with in-depth in maintenance, repair, setting and testing as required by the ASME Valve repair and Assembler program.

**Products addressed in this course include:**
- Crosby™ J Series including JOS-E, JBS-E, JLT-JOS, JLT-JBS-E and JOS-H products
- Crosby Omni 900 Series including 800, 900, 900BP products
- Anderson Greenwood™ 80 Series including 81P, 81 & 83 products

**Requirements for Completion (Levels of Proficiency):**
- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment
- Successfully complete all hands-on exercises

To sign up, email: PressureManagement.AP@emerson.com

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**On-site Training**

- On-site is available on request at ASP facility
- Daily Rate at USD 2000/day
- Other costs such as air ticket, Hotel & Misc charges will be charged at cost + 15% admin fee.
- Asia Pacific Region
- Customized

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**Training in each product listed includes instruction and hands on practice in the following areas.**

**Theory Session:**
- Introduction to Overpressure
- Codes and Standards
- Product Overview
- Sizing and Applications
- Maintenance Philosophy and Quality Control workflow from incoming to outgoing

**Practical Session:**
- Identify (Initial Inspection)
- Disassembly
- Cleaning
- Components Maintenance & Inspection
- Restoration & Replacement Parts
- Lapping & Polishing
- Assembling
- Setting and Testing
- Prepare for Shipment
- Final Inspection
- Installation

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[4]

5
## Certification Program for Shop Technicians
### (ASME VIII - Pilot Operated Pressure Relief Valves)

### Course Code:
PRV 002

### Duration:
5 Days

### Prerequisite:
Completion of Certification Program for Shop Technicians (PRV001 ASME VIII - Direct Spring-Loaded Pressure Relief Valves).

### Description:
To provide service technicians with Quality POSRV Operation, Repair and Maintenance Training for our range of Anderson Greenwood™ Pilot Operated Pressure Relief Valves.

### Products addressed in this course include:
- **High Pressure POPRV**
  - AGCO 200 Series
  - AGCO 400 Series
  - AGCO 500 Series
  - AGCO 700 Series
- **Low Pressure POPRV**
  - AGCO 93 Series
  - AGCO 9300 Series

### Note:
The course also includes information on the pilot accessories such as backflow preventers, exchanger, iso-dome etc.

### Training in each product listed includes instruction and hands on practice in the following areas.

#### Theory Session:
- Introduction to Overpressure
- Codes and Standards
- Product Overview
- Sizing and Applications
- Maintenance Philosophy and Quality Control workflow from incoming to outgoing

#### Practical Session:
- Identify (Initial Inspection)
- Disassembly
- Cleaning
- Components Maintenance & Inspection
- Restoration & Replacement Parts
- Lapping & Polishing
- Assembling
- Setting and Testing
- Prepare for Shipment
- Final Inspection
- Installation

### Requirements for Completion
(Less of Proficiency):
- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment
- Successfully complete all hands-on exercises

To sign up, email: PressureManagement.AP@emerson.com

## Certification Program for Field Service Engineer
### (ASME I - Boiler Safety Valves & Field Equipment)

### Course Code:
PRV 003

### Duration:
5 Days

### Prerequisite:
The participants must have 6 months experience following the certification with on-the-job experience in the service and Repair capabilities of PRVs.

### Description:
To ensure that participants can assemble setting and testing a Steam, Air and Liquid valve as required by the Assembler program of the ASME Boiler and Pressure Vessel code section I at a customer site. To service value on-site in a manner consistent with Anderson Greenwood™, Crosby™ Engineering Procedures and Practices including the using of In-situ testing device for commissioning works.

### Products addressed in this course include:
- H Series Boiler Safety Valves
- Preparation of Hydro-Testing at site
- In-situ testing device
- Reating equipment

### Training in each product listed includes instruction and hands on practice in the following areas.

#### Theory Session:
- Introduction to Overpressure
- Codes and Standards
- Product Overview
- Sizing and Applications
- Maintenance Philosophy and Quality Control workflow from incoming to outgoing

#### Practical Session:
- Initial Inspection
- Disassembly
- Cleaning
- Components Inspection
- Restoration & Replacement Parts
- Lapping & Polishing
- Assembling
- Setting and Testing
- Prepare for Shipment
- Final Inspection
- Installation
- Retrofitting and Conversions
- Documentation
- Installation Requirements

### Requirements for Completion
(Less of Proficiency):
- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment
- Successfully complete all hands-on test to ensure a participant’s ability to calibrate and test a HCI Safety Valve and achieve acceptable operation under ASME section I codes requirements
- Participants in additional to the written test are required to successfully remove a Hydro-plug from a H Series Safety valve and prepare it for full pressure steam testing on a simulated boiler for Safety valve Relief cycle and blowdown as required by the ASME for Valve repair and Assembler program.

To sign up, email: PressureManagement.AP@emerson.com
**Certification Program for LCS Proactive Growth Initiatives such as SWD, STO & Critical Site**

*(Total Asset Management through Site Walkdown)*

**Course Code:**
LCS 004

**Duration:**
3 Days

**Prerequisite:**
The participants must be an Approved Local Business Partners (LBP) for PRM products.

**Objective:**
To provide our Local Business Partner (LBP) and Select Service Provider (SSP) with quality installation, operation and maintenance concept of Total Asset Management via a Site Walkdown strategy.

**Description:**
The Site Walkdown main objective is to optimize Lifecycle growth opportunities through systematic survey of the installed base assets, either through a STO pursuit or a Pro-active LCS pursuit using the PRM LCS capability suites available.

Workshop topics addressed in this course include:
- PRM Lifecycle programs available
- Site Walkdown Process
- Site Walkdown App
- PRM - Asset Management

Training in each product listed includes instruction and hands-on practice in the following areas.

**Theory Session:**
- Roles and Workflow
- Basic Functionality
- Practicing in the App
- Creating a Walkdown
- Importing Tags
- Assigning a Walkdown
- Performing a Walkdown
- Access Walkdown (Edit, Reopen & Reports)
- Editing a Tag Number
- Reporting - Completed a Walkdown
- FAQs

**Practical Session:**
- LBP to schedule a real time site walkdown with a target account for the Trainers to demonstrate the competency of the training contents.
- Success Factor: Able to generate a value proposal to the customer that capture any of the LCS growth initiatives such as:
  - Operational Spare Management
  - Maintenance Contract
  - LTSA
  - Asset Management Program

**Requirements for Completion**
*(Levels of Proficiency):*
- Successfully complete a hands-on Site walkdown and submission of a value proposal professional report post walkdown.

**Course Code:**
LCS 004

**Duration:**
3 Days

**Prerequisite:**
The participants must be technicians or field engineers with 6 months to 1 year of on-the-job experience.

**Description:**
Participants are taught on the theory of operating principles of Regulators and follow by practical sessions on the dismantling, servicing, assembling and testing of various models of Industrial. Participants have gone through a series of assessments tests based on the theoretical topics covered and some practical tests assessments before they are being certified.

**Products addressed in this course include:**
- Direct-operated Regulators includes process regulators e.g. 95, 98 and 627 series valves
- Pilot-operated Regulators includes process regulators e.g. 1098, 63EG
- Tank Blanketing regulators includes ACE95 & 1190/1290

**Certification Program for Technicians and Field Engineers**

**Course Code:**
IND-REG 005

**Duration:**
5 Days

**Prerequisite:**
The participants must be technicians or field engineers with 6 months to 1 year of on-the-job experience.

**Description:**
Participants are taught on the theory of operating principles of Regulators and follow by practical sessions on the dismantling, servicing, assembling and testing of various models of Industrial. Participants have gone through a series of assessments tests based on the theoretical topics covered and some practical tests assessments before they are being certified.

**Products addressed in this course include:**
- Direct-operated Regulators includes process regulators e.g. 95, 98 and 627 series valves
- Pilot-operated Regulators includes process regulators e.g. 1098, 63EG
- Tank Blanketing regulators includes ACE95 & 1190/1290

**Training in each product includes classroom instruction and hands-on work-bench practice with production valves.**

**Training topics covered includes:**
- Fundamentals of self-operated and pilot-operated regulators
- Fundamentals of Back Pressure and Relief Regulators
- Regulators Troubleshooting
- Introduction to Tank Safety Devices
- Conducting Site Walkdown Survey

**Practical Session Include:**
- Identification of various types of Regulators
- Dismantling and Assembly of various types of regulators
- Testing and Troubleshooting of various types of Regulators
- Functional test and Settings of Regulators
- Tank safety product demonstration

**Requirements for Certification:**
- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment

**To sign up, email:**
PressureManagement.AP@emerson.com
Certification Program for Technicians and Field Engineers for Low-Pressure Tank Pressure Vacuum Relief Valves, Emergency Relief Vents and Flame Arresters

Certification Program for Natural Gas Skid Applications

Course Code: IND NGT 006
Duration: 2 Days
Prerequisite: Participants' current designation must be technicians or field engineers and should have 6 to 12 months exposure to Natural Gas systems.
Description: This module provides training on concepts on gas pressure regulation, custody transfer and gas conditioning. Students who complete this course will:
- Understand NG applications where Pressure Regulators are used
- Understand various NG skid installations
- Learn about associated NG conditioning requirements such as custody transfer, filtration and heating

Learning Objective & Products covered:
- Pressure regulators (FL) in NGT, overpressure protection (OSE / BM5 / FEQ), sizing basics, installations and applications.
- Gas conditioning design fundamentals
- Design principles and best practices
- Emerson NG conditioning capability
- Maintenance fundamentals about pressure regulators

To sign up, email: PressureManagement.AP@emerson.com

Training in each product includes classroom instruction and hands-on work-bench practice with production valves.

Theory Session:
- Fundamentals of Natural Gas Regulators
- Over Pressure Protection Devices
- Natural Gas Regulators Troubleshooting
- Introduction to skid system, testing and commissioning.

Practical Session (Site walkdown):
- Identification, dismantling and testing of NG pressure regulators & SSV
- Testing and Troubleshooting of various types of NG Regulators & SSV
- Functional test /set point setting of Regulators and SSV on a NG skid.

Requirements for Completion:
- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment

Course Code: TM 007
Duration: 4 Days
Prerequisite: 3 - 6 months of on-the-job experience in the tank management products of service and repair facility.
Description: Introduction to low-pressure (< 1 bar) vent/relief device design and flame arrester technology, construction, including assembly, disassembly, repair, setting and testing of the tank management products.

Products addressed in this course include:
- Weight-loaded valves such as
  - 2010B/2020B Varec™
  - 850/950 Enardo™
  - 4020/4040 Anderson Greenwood™
- Spring-loaded Valves and emergency relief vents design such as
  - 860/960
  - 4020/4040
  - 2000/2100 and others
- Flame Arrester design such as
  - FVFA and ERQ
  - EN-7
  - IRQ
  - DFA & EN-DFA

Training in each product includes classroom instruction and hands-on work-bench practice with production valves.

Classroom Session:
- Introduction to tank venting concepts and Technology
- Tank venting codes and standards
- Flame Arrester Technology including Flame propagation theory
- Product overview
- Selection and sizing using basic methods as well as sizing tools
- Maintenance philosophy
- Quality control

Hands-On Session:
- Initial inspection
- Disassembly
- Cleaning
- Component inspection and evaluation
- Restoration – Parts replacements
- Re-assembly
- Setting verification
- Testing
- Documentation

Requirements for Certification:
- 95% attendance and completed all assessments test and practical tests

To sign up, email: PressureManagement.AP@emerson.com
Maximize your investment with well trained personnel