

# Course Catalog 2023

## Training with Purpose You Have a Choice®

*The Tex Hildebrand Training Center  
at Indiana Wesleyan University  
- Fort Wayne, Indiana  
Education and Conference Center*

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See why our 'Live  
Online' is different





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Refrigeration & HVAC  
Mechanical & Plumbing  
Food Process  
**PSM-RMP & Safety Services**  
Controls & Automation  
Planned Maintenance

The Wagner-Meinert LLC Safety Services Group includes a team of dedicated Ammonia Refrigeration Training Professionals, who constantly strive to provide the best training services available in the industry. Our training team are Refrigerating Engineers and Technicians Association (RETA) Authorized Instructors (RAI).

We believe that initial and refresher training are cornerstones in any refrigeration organization. Since the inception of our group, training has been a mainstay and continues to expand and grow with the industry. We offer a wide variety of training options either at one of our general enrollment sites, 'Live Online', or tailored to and offered at your own site.

Our general enrollment training is held in Fort Wayne, Indiana at our Training Center; in Orlando, Florida at Kelly Refrigeration Services; at RETA headquarters in Albany, Oregon; and at many of our service center locations. Please refer to the schedule for dates and locations.

In the following pages we will outline the scope of each of the classes we provide. Each of the classes can be tailored to your specific facility and need upon request. Our course offerings are available on three learning platforms: at our training facilities, at your facility, or online.

We also offer several "FREE" seminars throughout the year at various locations. These are generally introductory and informative in nature.

Sincerely,

WAGNER-MEINERT, LLC

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***"Training – You have a choice"***

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## Course List - Complete

**Below is a complete list of our current course offerings. Courses are added continuously, if you have an interest in a course other than those listed below, please contact us!**

- Aerial Lift and Powered Industrial Truck Safety
- Ammonia Maintenance and Troubleshooting
- Ammonia Refrigeration Operator Refresher Course
- Ammonia Refrigeration Review Course
- ANSI/IIAR 2
- ANSI/IIAR 4
- ANSI/IIAR 5
- ANSI/IIAR 6
- ANSI/IIAR 7
- ANSI/IIAR 8
- ANSI/IIAR 9
- Applying the General Duty Clause
- Basic Electricity
- Certified Refrigeration Service Technician (CRST) Review
- Combustible Dust Compliance
- Confined Space Entry Competent Person
- Confined Space Entry Training
- Contractors PSM/RMP/ARM Awareness
- CRES Review
- Emergency and Evacuation Response
- Energy Optimization for Ammonia Refrigeration
- EPA 608 Training
- Fall Protection Competent Person
- Fundamentals of Refrigeration Engineering
- Hazard Communication with GHS
- How to Lead a PSM Team
- Incident Commander Training
- Incident investigation Root Cause Analysis
- Introduction to Ammonia Refrigeration Operations
- Introduction to Ammonia Refrigeration Compliance Programs
- Machine Guarding and PPE Training
- Mechanical Integrity Solutions
- NATE Core Essentials Class
- OSHA 10/30 Hour Construction
- OSHA 10/30 Hour General Industry
- Personal Protective Equipment Assessment Safety Program
- Preparing for a Government Inspection
- Refrigeration Level 1
- Refrigeration Level 2
- Respirator Program Development
- Setting up an Ammonia Preventative Maintenance Program
- The Control of Hazardous Energy
- Train the Trainer
- Understanding Daily Rounds
- Understanding Management of Change
- The Valve Course
- 4-Hour Arc Flash Awareness
- 8-Hour Hazardous Materials Technician Refresher Training
- 24-Arc Flash Training
- 24-Hour Hazardous Materials Technician Training



## Course List by Discipline

### Ammonia Refrigeration Compliance

- ANSI/IIAR 2
- ANSI/IIAR 4
- ANSI/IIAR 5
- ANSI/IIAR 6
- ANSI/IIAR 7
- ANSI/IIAR 8
- ANSI/IIAR 9
- Applying the General Duty Clause
- Contractor's PSM/RMP/ARM Awareness
- Introduction to Ammonia Refrigeration Compliance Programs
- Mechanical Integrity

### Ammonia Refrigeration Operations Courses

- Ammonia Maintenance and Troubleshooting
- Ammonia Refrigeration Operator Refresher
- Ammonia Refrigeration Review Course
- Basic Electricity
- Certified Refrigeration Service Technician (CRST) Review
- CRES Review
- Energy Optimization for Ammonia Refrigeration
- Fundamentals of Refrigeration and Operations
- How to Lead a PSM Team
- Introduction to Ammonia Refrigeration Operations
- Mechanical Integrity
- Refrigeration Level 1
- Refrigeration Level 2
- Setting up an Ammonia Preventative Maintenance Program
- Train the Trainer
- Understanding Daily Rounds
- Understanding Maintenance of Change
- The Valve Course

### HVACR Operations Courses

- Basic Electricity
- EPA 608 Training
- NATE Core Essential Class

## **Safety Courses**

- Aerial Lift and Powered Industrial Truck Safety
- Confined Space Entry Competent Person
- Confined Space Entry Training Course
- Emergency and Evacuation Response
- Hazard Communication with GHS
- Incident Commander Training
- Incident Investigation / Root Cause Analysis
- Machine Guarding and PPE Training Course
- OSHA 10/30 Hour Construction
- OSHA 10/30 General Industry
- Personal Protective Equipment Assessment Safety Program
- Preparing for a Government Inspection
- Respirator Program Development
- The Control of Hazardous Energy Lockout/Tagout
- 4-Hour Arc Flash Awareness
- 8-Hour Hazardous Materials Technician Refresher Training
- 24-Arc Flash Training
- 24-Hour Hazardous Materials Technician Training

## **Course Listed by RETA PDH Qualified**

- Ammonia Maintenance and Troubleshooting
- Ammonia Refrigeration Operator Refresher
- Ammonia Refrigeration Review Course
- ANSI/IIAR 2
- ANSI/IIAR 4
- ANSI/IIAR 5
- ANSI/IIAR 7
- ANSI/IIAR 8
- ANSI/IIAR 9
- Applying the General Duty Clause
- Basic Electricity
- Certified Refrigeration Service Technician (CRST) Review
- CRES Review
- Energy Optimization for Ammonia Refrigeration
- Fundamentals of Refrigeration Engineering
- How to Lead a PSM Team
- Incident Commander Training
- Incident Investigation / Root Cause Analysis
- Introduction to Ammonia Refrigeration Operations
- Introduction to Ammonia Refrigeration Compliance Programs
- Mechanical Integrity
- Refrigeration Level 1
- Refrigeration Level 2
- Respirator Program Development
- Setting up an Ammonia Preventative Maintenance Program
- The Control of Hazardous Energy Lockout/Tagout
- Train the Trainer
- Understanding Daily Rounds
- Understanding Management of Change
- The Valve Course
- 24-Hour Hazardous Materials Technician Training

## CLASS DESCRIPTIONS

More than a tag line, “Training with Purpose” is the core philosophy of our training group. Wagner-Meinert, LLC provides an extensive assortment of classes in several formats to allow for the best possible training experience.

### Classroom

We offer traditional classroom training at facilities nationwide as well as on-site at your facilities. Our training locations include:

- ◆ Fort Wayne, Indiana
- ◆ Nashville, Tennessee
- ◆ Van Buren, Arkansas
- ◆ Albany, Oregon
- ◆ Bartow, Florida

### On-line

Our “Live-on-line” is an interactive learning environment that combines the benefits of face-to-face live training coupled with the non-travel convenience of on-line training. These courses are designed to allow students to participate in live sessions from the comfort of their own homes or facilities.

PDH (Professional Development Hours) and CEU (Continuing Education Units) are available from most of our courses. If you need RETA hours to maintain RETA certification, we have the courses to fit your needs.

For your convenience, we’ve provided discipline descriptions for our courses.

- Ammonia Refrigeration Operations courses are designed for Ammonia Refrigeration Operators and Technicians. Supervisors and Safety personnel may also find them of benefit.
- Safety Courses are designed for Operators and plant personnel. Safety personnel and Management Personnel will benefit greatly from the safety information presented.
- Ammonia Refrigeration Compliance are designed for Personnel who develop, maintain, or function within a compliance program.
- HVACR Operations courses are designed for HVACR Technicians. Supervisors and Safety personnel may also find them of benefit.

In addition, we offer customized course in a huge variety of Ammonia Refrigeration, Compliance, Safety, HVACR, Human Resources, industrial philosophy, Contractor operations, and several other subjects. Contact us for all of your training needs.



## **Advanced Maintenance and Troubleshooting**

**Course length:** 32 Hours

**Costs:** \$1,399

**Pre-requisites:** Level 1, Level 2, Maintenance & Troubleshooting

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 32

**Available as a “Live-on-Line” Course:** No

**Description:** Participants will build upon the Maintenance and Troubleshooting concepts presented in “Maintenance and Troubleshooting”. This “next step” in maintenance allows operators and technicians to increase their skills to even higher levels.

## **Aerial Lift, Articulating Boom Lifts and Scissor Lifts**

**Course length:** 4 Hours

**Costs:** \$99

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Participants will attend an engaging classroom portion, followed by hands-on experience with available equipment. We will walk through an equipment inspection, pre-operation function tests and administer a driving test. Each participant will receive, pending the passing of a written knowledge check and a driving demonstration, a certificate of course completion.

## **Ammonia Maintenance & Troubleshooting**

**Course length:** 32 Hours

**Costs:** \$1,339

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 32

**Available as a “Live-on-Line” Course:** No

**Description:** The course uses RETA Industrial Refrigeration III as a textbook. In addition to the in-depth coverage of the text, additional information (Manufacturers’ literature, other information, articles, videos and bulletins) will be covered during the course. This course will also involve hands-on maintenance evolutions covering the normal day-to-day and maintenance.

**Hands-On Exercises:** Maintenance techniques on various pieces of refrigeration equipment.

## **Ammonia Refrigeration Operator Refresher**

Course length: 8 Hours

Costs: \$399

Pre-requisites: None

Discipline: Ammonia Refrigeration Operations

RETA PDH: 8

Available as a “Live-on-Line” Course: Yes

**Description:** The emphasis for this ‘site-specific’ course will be geared toward the operation of an ammonia system, safety, Personal Protective Equipment, and isolating ammonia systems safely. It will include information concerning exposure levels, health effects, hazards of mixing chemicals, etc. It is intended to be modified to the specific needs of the facility to include the areas of training not contained in other PSM related training to supplement the PSM Operator Refresher requirement.

## **ANSI/IIAR 2 - Standard for Safe Design of Closed-Circuit Ammonia Refrigeration Systems**

Course length: 8 Hours

Costs: \$399

Pre-requisites: None

Discipline: Ammonia Refrigeration Compliance

RETA PDH: 8

Available as a “Live-on-Line” Course: Yes

**Description:** This new revision of the ANSI/IIAR 2 Standard incorporates new information formerly found in IIAR non-mandatory bulletins. The addition of these requirements to the ANSI/IIAR 2 Standard represents a change from recommendations to requirements. These changes will affect the way ammonia refrigeration systems are designed and maintained. This seminar will help give you the understanding you need to implement these practices at your facility.

## **ANSI/IIAR 4 - Installation of Closed-Circuit Ammonia Refrigeration**

Course length: 2 Hours

Costs: \$199

Pre-requisites: None

Discipline: Ammonia Refrigeration Compliance

RETA PDH: 2

Available as a “Live-on-Line” Course: Yes

**Description:** ANSI / IIAR 4 specifies minimum requirements for the safe installation of closed-circuit ammonia mechanical refrigeration systems and overpressure device piping when used in conjunction with a closed-circuit ammonia refrigeration system. This seminar provides an overview of this standard aimed at those that design or install these systems as well as those that specify or supervise the construction of systems. E-manuals are simply not enough.

## **ANSI/IIAR 5 - Start-up and Commissioning of Closed Circuit Ammonia Refrigeration Systems**

Course length: 2 Hours

Costs: \$199

Pre-requisites: None

Discipline: Ammonia Refrigeration Compliance

RETA PDH: 2

Available as a “Live-on-Line” Course: Yes

**Description:** ANSI / IIAR 5 specifies start-up and commissioning of closed-circuit ammonia refrigeration system specifies criteria and procedures of the start-up and commissioning of closed-circuit ammonia mechanical refrigeration system. It provides basic minimum requirements for the safe start-up and commissioning of completed closed-circuits mechanical refrigerating systems utilizing ammonia as the refrigerant and additions and modifications made to such systems.

## **ANSI/IIAR 6 - Standard for Inspection, Testing, and Maintenance of Safe Closed-Circuit Ammonia Refrigeration System**

Course length: 8 Hours

Costs: \$399

Pre-requisites: None

Discipline: Ammonia Refrigeration Compliance

RETA PDH: 8

Available as a “Live-on-Line” Course: Yes

**Description:** ANSI / IIAR 6 is revolutionizing the inspection, testing, and maintenance requirements of closed-circuit ammonia refrigeration systems. Adjusting critical preventative maintenance systems and adjusting intervals is key to the adoption of the new standard. Having adequate documentation is key as is a solid checks and balances system. This course will break down the standard and give you real word tips to make compliance manageable.

## **ANSI/IIAR 7 Developing Operating Procedures for Closed-Circuit**

Course length: 8 Hours

Costs: \$399

Pre-requisites: None

Discipline: Ammonia Refrigeration Compliance

RETA PDH: 8

Available as a “Live-on-Line” Course: Yes

**Description:** Developing, understanding, and using operating procedures can be an intimidating task. This standard provides direction in creating operating procedures with the following primary goals in mind: Easy to Understand and Follow, Safe, Effective, Reliable, and Meeting Applicable Regulatory Requirements.

## **ANSI/IIAR 8 Decommissioning of Closed-Circuit Ammonia Refrigeration Systems**

Course length: 8 Hours

Costs: \$399

Pre-requisites: None

Discipline: Ammonia Refrigeration Compliance

RETA PDH: 8

Available as a "Live-on-Line" Course: Yes

**Description:** This new standard will change the way ammonia refrigeration components as well as entire systems are decommissioned. This seminar will help give you the understanding you need to implement these practices at your facility.

## **ANSI/IIAR 9 Standard for Minimum System Safety Requirements for**

Course length: 8 Hours

Costs: \$399

Pre-requisites: None

Discipline: Ammonia Refrigeration Compliance

RETA PDH: 8

Available as a "Live-on-Line" Course: Yes

Class Numbering: 2019-F1

**Description:** This standard is for minimum system safety requirements for existing closed-circuit ammonia refrigeration systems. The safety focus is on persons and property located at or near the premises where the refrigeration systems are located. This standard is not intended to serve as a comprehensive technical design, operation, or maintenance manual and should not be used as such.

## **Applying the General Duty Clause as a Checklist for a PSM / ARM /**

Course length: 1 Hour

Costs: \$99

Pre-requisites: None

Discipline: Ammonia Refrigeration Compliance

RETA PDH: 1

Available as a "Live-on-Line" Course: Yes

**Description:** This is a short introductory course and discussion on the General Duty Clause (GDC) and how to develop a checklist to GDC compliance.

## **Basic Electricity**

**Course length:** 24 Hours

**Costs:** \$929

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations & HVACR Operations

**RETA PDH:** 24

**Available as a “Live-on-Line” Course:** Yes

**Description:** This course is primarily for plant personnel. It is specifically directed to individuals concerned with safe, effective and efficient operation of plant equipment. The course will start with a foundation of important basic principles. Then it will progress through different areas of basic electricity until all essential study area are thoroughly covered.

**Hands-On Activities:** Use of electrical circuits, student activity books.

## **Certified Refrigeration Service Technician (CRST) Review**

**Course length:** 32 Hour

**Costs:** \$1,099

**Pre-requisites:** Level 1, Level 2, Maintenance & Troubleshooting

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 32

**Available as a “Live-on-Line” Course:** Yes

**Description:** This class is intended to help those preparing for RETA’s Certified Refrigeration Service Technician Exam. Material review during this course includes Safety, Compressors, Oil Analysis, Condensers and Cooling Towers, Vessels, Piping, Valves, Controls, Insulation systems, Evaporators, heat Exchangers, Pumps, transfer systems, purgers, electric service, motors, control maintenance, shaft and bearing maintenance, leak monitoring and detection, troubleshooting system operations, ammonia refrigeration compliance, Process Safety Management, and Risk Management. If you are about to sit for the RETA CRST exam and want to sharpen your knowledge in preparation for the exam, this class is for you.

## **Chemical Safety Board Release Reporting**

**Course length:** 2 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety Management

**RETA PDH:** 2

**Available as a “Live-on-Line” Course:** Yes

**Description:** Beginning March 23, 2020, facilities will be required to comply with additional chemical release reporting requirements. On February 21, 2020, the Chemical Safety and Hazard Investigation Board (“CSB”), an independent federal agency charged with investigating serious chemical incidents, published a final regulation which requires facilities to report to the CSB “any accidental release resulting in a fatality, serious injury, or substantial property damage.” This course will discuss what those requirements are and what you need to do to meet the requirements.



## **Introduction to CO<sub>2</sub> Refrigeration**

**Course length:** 32 Hours

**Costs:** \$1,299

**Pre-requisites:** None

**Discipline:** Safety Management

**RETA PDH:** 32

**Available as a “Live-on-Line” Course:** Yes

**Description:** This seminar is specifically directed to Plant Engineers, Maintenance Personnel and all individuals concerned with learning about the operation of CO<sub>2</sub> Industrial Refrigeration Systems. Based on the RETA CO<sub>2</sub> Course manual, it is intended as a complete and introductory CO<sub>2</sub> refrigeration course.

## **Introduction to the Combustible Dust Program**

**Course length:** 24 Hours

**Costs:** \$929

**Pre-requisites:** None

**Discipline:** Safety Management

**RETA PDH:** 24

**Available as a “Live-on-Line” Course:** Yes

**Description:** The Combustible Dust Training program elements are based on NFPA 652 standard and OSHA requirements for managing Combustible Dust Compliance. This course is designed to introduce to attendees the basics of compliance for facilities with combustible dust. Upon completion of the training, participants should be able to identify combustible dust hazards, be able to conduct a Dust Hazard Analysis, and be able to set up their own Combustible Dust Program.

## **Compliance Matrices for Corporate Personnel**

**Course length:** 2 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** 2

**Available as a “Live-on-Line” Course:** Yes

**Description:** Compliance Matrices for Corporate Personnel is a course designed to provide the basic components of a Safety and Health Program. Topics include Formulating Safety Policy and Procedures; developing a company specific Safety and Health Compliance Manual; OSHA Required Training and how to properly document Training; OSHA Recordkeeping requirements (OSHA 300 Log); and conducting effective inspections. This course is for Owners, Managers, Safety Managers, or anyone designated to develop or maintain a Safety and Health programs.

## **Confined Space Entry Training**

**Course length:** 8 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a "Live-on-Line" Course:** No

**Description:** Our Confined Space Entry Course teaches (non-entry rescue). We combine the OSHA regulations with our years of on-the-job experience to create a course that participants will both learn from and enjoy.

**Hands-On Activities:** With client equipment

## **Confined Space Entry Competent Person**

**Course length:** 8 Hours

**Costs:** \$495

**Pre-requisites:** Confined Space Programs (WMI)

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a "Live-on-Line" Course:** No

**Description:** The term "Competent Person" is used in many standards including Confined Space Entry. A Competent Person is defined as "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsafe, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them".

## **Contractor's PSM/RMP/ARM Awareness**

**Course length:** 4 Hour

**Costs:** \$309

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Compliance

**RETA PDH:** Does Not Qualify

**Available as a "Live-on-Line" Course:** Yes

**Description:** Who needs Ammonia Awareness Training and why? Ammonia is a highly hazardous chemical covered by federal and local regulations. Although ammonia is used all around us in day-to-day business, reactions to exposure and releases must be immediate. Contract employees must be aware of the hazards to which they will be exposed. This course discusses common hazards as well as how to identify hazards.

## **Controls for Ammonia Refrigeration Operators**

**Course length:** 16 Hours

**Costs:** \$499 \*

**Pre-requisites:** Basic Electricity or Equivalent

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 16

**Available as a “Live-on-Line” Course:** Yes

**Description:** This course is designed for those Ammonia Refrigeration Operators who would like to develop a fundamental understanding of the control systems including ladder logic, used in today's ammonia refrigeration systems.

## **CRES Review**

**Course length:** 24 Hour

**Costs:** \$929

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 24

**Available as a “Live-on-Line” Course:** Yes

**Description:** The Certified Refrigeration Energy Specialist (CRES) is a technical-level examination designed to identify whether a person has the knowledge to function safely in an engine room and recognize energy reduction opportunities in and around the system.

## **Emergency and Evacuation Response**

**Course length:** 4 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Emergency and Evacuation Response course will help managers and supervisors understand the importance of a well-developed emergency action plan along with how to implement and audit the EAP. Our course is designed to help your organization work as a team in case of emergency to help with accountability and mitigate losses.

## **Energy Optimization for Ammonia Refrigeration**

**Course length:** 24 Hours

**Costs:** \$929

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 24

**Available as a “Live-on-Line” Course:** Yes

**Description:** This course is designed to inform and create awareness of the energy use, loss and cost and provide a means to begin managing and thus saving energy and money.

## **EPA 608 Training**

**Course length:** 6 Hour

**Costs:** \$200

**Pre-requisites:** None

**Discipline:** HVACR Operations

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Refrigerant usage Certification—608 covers all air conditioning and refrigeration equipment containing CFCs, HCFCs, and HFCs except motor vehicle air conditioning. Some of the air conditioners that are covered by this rule are identical to motor vehicle air conditioners, but they are not covered by the MVAC refrigerant recycling rule because they are used in vehicles that are not defined as “motor vehicles”. These air conditioners include many systems used in construction equipment, farm vehicles, boats, and airplanes.

## **Fall Protection Competent Person**

**Course length:** 8 Hours

**Costs:** \$495

**Pre-requisites:** Fall Protection (WMI)

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Falls are one of the leading causes of death in both construction and facilities. Our competent person course helps individuals to be able to identify fall hazards, and how to control them through means such as engineering, training and PPE. A competent person is defined as “one who is capable of identifying existing and predictable hazards and who has authorization to take prompt corrective measures to eliminate them”.

## **Fall Protection Safety Including Ladder and Scaffolding Safety**

**Course length:** 8 Hour

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Falls accounted for over 384 employees falling to their death each year. On average that means a person a day dies due to a fall; these are preventable accidents Wagner-Meinert, LLC's Fall Protection Safety course covers a multitude of topics from scaffolding safety to portable and permanently affixed ladders.

## **Fundamentals of Refrigeration Engineering**

**Course length:** 32 Hours

**Costs:** \$1,699

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations & HVACR Operations

**RETA PDH:** 32

**Available as a “Live-on-Line” Course:** No

**Description:** Need a better understanding of how ammonia systems are built, the standards employed for pumps, pipes and vessels? Fundamentals of Refrigeration Engineering is the class for you. We utilize world class documents and standards from the leading authorities.

**Hands-On Activities:** Advanced calculations on operational systems

## **General Duty Clause**

**Course length:** 4 Hours

**Costs:** \$309

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** 4

**Available as a “Live-on-Line” Course:** Yes

**Description:** This course will consist of a detailed presentation of the General Duty Clause and its application. While the seminar is beneficial for all facilities, there will be a special emphasis on facilities with less than 10,000 pounds of ammonia. Additionally, any facility which has an extremely hazardous chemical will benefit.



## **How to Lead a PSM/RMP or ARM Team**

Course length: 4 Hour

Costs: \$309

Pre-requisites: None

Discipline: Ammonia Refrigeration Operation

RETA PDH: 4

Available as a “Live-on-Line” Course: Yes

**Description:** Many times, the key to effectively leading a team is not your knowledge of the program, but the process you use to conduct the meetings. This seminar will focus on developing your technique to running an effective and efficient PSM/RMP Team Meeting.

## **Incident Commander Training**

Course length: 8 Hours

Costs: \$609

Pre-requisites: None

Discipline: Safety

RETA PDH: Does Not Qualify

Available as a “Live-on-Line” Course: Yes

**Description:** This course is designed to comply with the requirements of OSHA and the EPA. It is designed for Emergency Response Personnel who will take charge of the Response Team when responding to chemical spills or substantial leaks.

**Hands-On Exercises:** Tabletop

## **Incident Investigation / Root Cause Analysis**

Course length: 24 Hours

Costs: \$929

Pre-requisites: None

Discipline: Safety

RETA PDH: 24

Available as a “Live-on-Line” Course: Yes

**Description:** We’ve all heard it mentioned that we need to find the root cause of a problem. This class is designed to provide an in depth look at root cause analysis. Using proven techniques and theories you’ll go through an actual incident, identify the problem, find the cause and decide on a real-world solution.

**Hands-On Exercises:** Tabletop

## **Industrial Ammonia Refrigeration Level 1**

**Course length:** 36 Hours Fort Wayne

**Costs:** \$1,299

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operation

**RETA PDH:** 36

**Available as a "Live-on-Line" Course:** Yes

**Description:** This seminar is specifically directed to Plant Engineers, Maintenance Personnel, and all individuals concerned with more efficient operation of their Industrial Refrigeration Systems. Based on the RETA Course One manual, it is intended as a complete and introductory refrigeration course.

## **Industrial Ammonia Refrigeration Level 2**

**Course length:** 36 Hours

**Costs:** \$1,299

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 36

**Available as a "Live-on-Line" Course:** Yes

**Description:** This course uses RETA Industrial Refrigeration II as a textbook. In addition to the in-depth coverage of the text, information (Manufacturers' literature, other text, articles, videos and bulletins) will be covered during the course.

## **Industrial Ammonia Refrigeration Review Course**

**Course length:** CARO 16 Hours /  
CIRO 24 Hours

**Costs:** \$649 CARO / \$849 CIRO

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 16/24

**Available as a "Live-on-Line" Course:** Yes

**Description:** This course is designed to allow a student who has already completed the RETA course materials the opportunity to review the information, re-establish core concepts, and prepare for the exam. The 16 Hour version refreshes the concepts presented in Industrial Refrigeration Book 1, Day #3 (24 Hour version) provides for a refresher of Industrial Refrigeration Book 2 and 3 as well as portions of Industrial Refrigeration Book 4. When taught at your facility four of the eight hours can be customized.

## **Introduction to Ammonia Refrigeration Compliance Programs**

**Course length:** 24 Hours

**Costs:** \$929

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Compliance

**RETA PDH:** 24

**Available as a “Live-on-Line” Course:** Yes

**Description:** This course is designed to introduce Plant Managers, ERT Members, Engineers, Maintenance Managers, Maintenance Operators, Safety Personnel, and other Members of Management to the basics of compliance for facilities with Ammonia Refrigeration systems. Discussions include ARM (Ammonia Refrigeration Management), ARM-LC (Ammonia Refrigeration Management – Low Charge), PSM (Process Safety Management), RMP (Risk Management Programs), and Department of Homeland Security (DHS).

## **Introduction to Ammonia Refrigeration Operations**

**Course length:** 8 Hours

**Costs:** \$399

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 8

**Available as a “Live-on-Line” Course:** Yes

**Description:** In this course, the basics of Operating an ammonia refrigeration system is discussed. Including safety, the expanded ammonia refrigeration cycle, standard operations, and rounds. This course is designed for personnel who may be exposed to the hazards of the ammonia refrigeration system and/or may be called upon during a small leak. Similar to our Operator Refresher Course, this course can be utilized for both introduction and operator refresher.

## **Machine Guarding & PPE Training**

**Course length:** 4 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** The Machine Guarding Course is valuable to help employees understand the hazards associated with in-running pinch points and guarding points of operation. Machine safety controls come in many different forms; employees need to understand how each one is designed to protect them.

## **Mechanical Integrity**

**Course length:** 8 Hours

**Costs:** \$499

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations & Ammonia Refrigeration Compliance

**RETA PDH:** 8

**Available as a “Live-on-Line” Course:** No

**Description:** Each owner should ensure an ammonia system safety check is checked annually. In addition, 3<sup>rd</sup> party inspections are required every five years. EPA believes that owners and operators who have these (extremely hazardous) substances must adhere, at a minimum, to recognized industry standards and practices (as well as any government regulations) in order to be in compliance with the general duty clause.

**Hands-On Exercises:** Visual equipment inspections

## **NATE Core Essentials Class**

**Course length:** 16 Hours

**Costs:** \$629

**Pre-requisites:** None

**Discipline:** HVACR Operations

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** This class is intended to help those preparing for the NATE Core Essentials Exam. Areas addressed in this sixteen-hour class include: Safety, Tools, basic construction, using basic science, achieving desired conditions, taking temperatures, taking humidity measurements, and basic electrical safety and operation. If your about to sit the for the NATE Core Essentials Exam, and want to sharpen your knowledge in preparation, this class is for you.

## **OSHA 10 Hour Construction**

**Course length:** 10 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Our OSHA 10-Hour Outreach Training Course for Construction is general awareness course designed for all persons in construction. Our 10-hour course is unlike any other because we take a personal approach to understand what our participants face on a day-to-day basis and help teach them practical safety techniques. Each participant will receive an OSHA 10-hour card.

## **OSHA 30 Hour Construction**

**Course length:** 30 Hours

**Costs:** \$799

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Our OSHA 30-Hour Outreach Training Course for Construction is a more advanced safety course designed for Owners, Supervisors, Foremen or any person with safety responsibilities in construction. Our 30-hour course is unlike any other because we take a personal approach to understand what employees face on a day-today basis and help teach Safe Work Practices. Each participant will receive an OSHA 30-hour card.

## **OSHA 10 Hour General Industry**

**Course length:** 10 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Our OSHA 10-Hour Outreach Training Course for General Industry is general awareness course designed for all persons manufacturing, distribution, maintenance, and service industries. Our 10-hour course is unlike any others because we take a personal approach on how to apply the OSHA rules and regulations. We teach practical safety techniques presented with real-world application that is easy to understand. Each participant will receive an OSHA 10-hour card.

## **OSHA 30 Hour General Industry**

**Course length:** 30 Hours

**Costs:** \$795

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Our OSHA 30-Hour Outreach Training Course for General Industry is a more advanced safety course designed for Owners, Supervisors, Foremen, Crew Leaders, Safety Committees chairpersons or any person with safety responsibilities. Our 30-hour course is unlike any others because we take a personal approach to understand what employees face on a day-today basis. We teach practical safety techniques presented with real-world application that is easy to understand. Each participant will receive an OSHA 30-hour card.



## **PPE (Personal Protective Equipment) Hazard Assessment**

**Course length:** 3 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** The PPE Hazard Assessment Course is designed to help identify hazards and/or potential hazards in order to understand what, when, and why PPE may be required. We will start with the initial hazard evaluation of a facility, to the selection of proper PPE, employee training, and finish up with ongoing equipment assessment. This class will help you to understand what should be included in your PPE Policy.

## **Powered Industrial Truck (Forklift) Safety**

**Course length:** 4 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Participants will attend an engaging classroom portion, followed by hands-on experience with available equipment. We will walk through an equipment inspection, pre-operation function tests and administer a driving test (depending on equipment availability). Each participant will receive, pending the passing of a written knowledge check and a driving demonstration, a certificate of course completion.

**Hands-On Exercises:** Lifting, parking, exercises utilizing facility equipment and driver evaluations.

## **Preparing for a Government Inspection**

**Course length:** 4 Hours

**Costs:** Free / \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Qualify

**Available as a “Live-on-Line” Course:** Yes

**Description:** This course will provide tips on preparation for and actions to be taken during a governmental inspection. Whether OSHA, EPA, or other governmental agencies are scheduled to visit your facility, there are certain actions that you can take to minimize their effect on your operations. This seminar will focus on identifying and implementing these actions.

## **Respirator Program Development**

**Course length:** 2 Hours

**Costs:** Free / \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** 2

**Available as a “Live-on-Line” Course:** No

**Description:** Do you or your people wear respirators? What are the training requirements? What are the medical and physical requirements? The development of a respirator is essential for the safety of employees and in meeting regulatory requirements. This seminar is designed to cover the basics of developing a respirator program that is effective, safe, and compliant.

## **Setting up an Ammonia Preventative Maintenance (PM) Program**

**Course length:** 4 Hours

**Costs:** Free / \$199

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration Operations

**RETA PDH:** 2

**Available as a “Live-on-Line” Course:** Yes

**Description:** The class will begin with a discussion of the sources of preventative maintenance requirements, a discussion of the proper methods of establishing and timing PMs for maximum efficiency and developing a PM variance log. Topics such as assignment of PMs, technician training, PM documentation, and evaluation of the PM program will be discussed.

## **The Control of Hazardous Energy “Lockout/Tagout/Test”**

**Course length:** 4 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** 4

**Available as a “Live-on-Line” Course:** No

**Description:** The Lockout/Tagout Course will help employees understand the importance of locking out and tagging out equipment. We will help identify and the explain the different types of hazardous energy that must be controlled prior to employees entering hazard zones. We'll explain the steps of Lockout/Tagout using the “Magnitude of Energy” sequence.

**Hands-On Exercises:** Practical application of Lockout Tagout

## **The Valve Course - A Primer on Refrigeration Valves**

Course length: [4 Hours](#)

Costs: Free / [\\$199](#)

Pre-requisites: [None](#)

Discipline: [Ammonia Refrigeration Operations](#)

RETA PDH: [4](#)

Available as a "Live-on-Line" Course: [No](#)

**Description:** An in-depth look at the various valves used in ammonia refrigeration. Cut away of most valves, a description of their function, their use and the basic maintenance requirements for each. Featuring Hansen, Parker (R/S), Danfoss, Henry and Cyrus Shank.

## **Train the Trainer**

Course length: [24 Hours](#)

Costs: [\\$1,350](#)

Pre-requisites: [None](#)

Discipline: [Ammonia Refrigeration Operations](#)

RETA PDH: [24](#)

Available as a "Live-on-Line" Course: [No](#)

**Description:** This train the trainer course is designed for workplaces that need trainers that will hit the ground running with a high level of adult learning tools. This is not an exercise for passing assessments, this is for people that need the skills to train in today's professional workplaces. This program is designed to benefit employees that are being asked to design and/or deliver training in the workplace. Participants identify the learning needs of adults, how to plan, develop, and implement different types of training, and how to deliver and assess the success of the training.

## **Understanding Daily Rounds**

Course length: [3 Hours](#)

Costs: Free / [\\$199](#)

Pre-requisites: [None](#)

Discipline: [Ammonia Refrigeration Operations](#)

RETA PDH: [3](#)

Available as a "Live-on-Line" Course: [Yes](#)

**Description:** The Course will help employees understand the importance of daily rounds as well as tips and tricks on developing efficient and effect daily rounds logs.

## **Understanding HazCom**

**Course length:** 4 Hours

**Costs:** \$199

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a “Live-on-Line” Course:** No

**Description:** Understanding Hazard Communication is a course designed to explore the different components of a Hazard Communication. Topics include: Globally Harmonized System and SDSs (formally known as MSDSs); Container labeling and what information is required for secondary labeling; Chemical storage and chemical segregation; management’s responsibilities and employee’s rights. This course is for anyone who works with or is exposed to potentially harmful chemicals in their workplace. This course meets OSHA’s requirements for Haz-Com training.

## **Understanding Management of Change**

**Course length:** 3 Hours

**Costs:** Free / \$199

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration  
Compliance

**RETA PDH:** 3

**Available as a “Live-on-Line” Course:** Yes

**Description:** This course is a lively discussion of the requirements of Management of Change Programs (MOC). There is much more to Management of Change than you may think. What is a MOC event and what is not? Are there benefits to expanding your program? What are the different classifications of MOC? Am I bound by the definitions within the standard or can I expand them for my facility? These questions and many more will be examined.

## **Understanding The Ammonia Refrigeration Training Guideline**

**Course length:** 4 Hours

**Costs:** Free / \$199

**Pre-requisites:** None

**Discipline:** Ammonia Refrigeration  
Operations & Ammonia Refrigeration  
Compliance

**RETA PDH:** 3

**Available as a “Live-on-Line” Course:** Yes

**Description:** This course examines how this guideline can and should be used to develop a training program or audit an existing training program. The industry believes that training guidelines identifying the areas of study and learning objectives for training system operators eliminates confusion and provides a road map for companies struggling with the task of meeting governmental regulations. The training guideline identifies the core competencies in an effective training program.

## **4 Hour Arc Flash Awareness**

Course length: 4 Hours

Costs: \$99

Pre-requisites: None

Discipline: Safety

RETA PDH: Does Not Qualify

Available as a "Live-on-Line" Course: Yes

**Description:** Our 4-hour NFPA 70-E Arc Flash Awareness course is designed for employees who work around and near electrical equipment. The course topics range from Safety Requirements, Limits of Approach, Personal Protective Equipment, Risk Assessments, and much more. The course is designed to help participants understand the extreme risks of an arc flash, how-to avoid potential arc flash hazards and how to protect yourself if one occurs. (This is a limited version of our 24-hour Arc Flash Training.)

## **8 Hour Hazardous Materials Technician Refresher Training**

Course length: 8 Hours

Costs: Free / \$399

Pre-requisites: None

Discipline: Safety

RETA PDH: Does Not Qualify

Available as a "Live-on-Line" Course: No

**Description:** This course is designed to keep the qualified 24 Hour Responder current with the requirements of OSHA and the EPA. It is designed for Emergency Response Personnel who are currently qualified as Response Personnel responding to chemical spills and leaks.

**Hands-On Exercises:** Leak response and rescue drill.

## **24 Hour Arc Flash Training**

Course length: 24 Hours

Costs: \$799

Pre-requisites: None

Discipline: Safety

RETA PDH: 24

Available as a "Live-on-Line" Course: No

**Description:** Our 24-hour NFPA 70-E Arc Flash training course covers topics ranging from Safety Requirements, Limits of Approach, Personal Protective Equipment, Risk Assessments, and much more. This course is designed to help participants understand the extreme risks of an arc flash and how to protect themselves in the event that one occurs. If your employees are working on live electrical circuits, this course is a must!

**Hands-On Exercises:** Client visual equipment inspections, dress out and arc flash boundary set-ups.



## **24 Hour Hazardous Materials Technician Training**

**Course length:** 24 Hours

**Costs:** \$929

**Pre-requisites:** None

**Discipline:** Safety

**RETA PDH:** Does Not Qualify

**Available as a "Live-on-Line" Course:** No

**Description:** This course is designed to comply with the requirements of OSHA and the EPA. The fundamentals of emergency response for a single site is discussed. Based around Ammonia Emergency Response, this course is beneficial to responders to any chemical spill or leak.

**Hands-On Exercise:** Visual equipment inspections, proper donning and doffing of equipment, decontamination procedures, leak response and rescue drill

Learning that makes a difference.

Looking forward to seeing you in class or online !!!

CREDITS: Every hour of class equals 1 PDH (Professional Development Hour)  
and every  
10 PDH equals 1 CEU (Continuing Education Unit).

### **TO REGISTER:**

**Phone** (260) 489-7555,

**Mail to** Wagner-Meinert LLC

7617 Freedom Way

Fort Wayne, IN 46818,

**Fax** (260)-489-7473

**Email** Registration@WMILLC.com.

Include a purchase order or check payable to Wagner-Meinert, LLC. Credit cards are accepted with a 3% surcharge.

**CANCELLATION POLICY:** Cancel up to 21 days prior to the first day of the seminar at no cost. If cancelling less than 21 days but more than 3 days prior to the seminar, 50% of the cost will be billed, unless previous arrangements have been made. Failure to cancel or cancelling within 3 days of the seminar, the entire cost of the seminar will be billed.

Substitution of a qualified student at any time incurs no additional cost.



The following pages present brochures for the majority of our courses. Other Courses are available. Contact us, should you need information pertaining to a course not listed here

## Aerial Lift and Powered Industrial Truck Safety

**Wagner-Meinert, LLC's  
Aerial lift and Power  
Industrial Truck Safety  
course not only provides  
valuable knowledge, but  
also hands-on  
experience that will  
teach participants  
proper use techniques  
and test their abilities.**



# Aerial Lift and Powered Industrial Truck Safety

Participants will learn:

- ♦ Operating limitations of equipment
- ♦ Proper driving techniques
- ♦ How to inspect equipment
- ♦ Hazards of improper use of equipment
- ♦ OSHA standards for use of equipment
- ♦ And much more



Through our Aerial Lift and Powered Industrial Truck Safety course, participants will attend an engaging classroom portion, followed by hands-on experience with available equipment. We will then administer a driving test

**“Our Reputation is our Future”**





# ***AMMONIA MAINTENANCE AND TROUBLESHOOTING***

## ***“Plant Maintenance and Troubleshooting Techniques”***

The course uses Industrial Refrigeration 3 (published by The Refrigerating Engineers & Technicians Association) as a textbook. In addition to the in-depth coverage of the text, additional information (Manufacturers' literature, other text, articles, videos, and bulletins) will be covered during the course. This course will also involve hands-on maintenance and troubleshooting.

The course syllabus includes:

### **Course Lectures pertaining to:**

- Safety
- Refrigeration Compressors
- Oil Analysis
- Condensers and Cooling Towers
- Vessels, Piping, Valves, and Controls
- Insulation
- Evaporators and Heat Exchangers
- Pumps and Transfer Systems
- Purgers
- Electrical Service and Troubleshooting, Motors, and Variable Frequency Drives
- Controls
- Shaft and Bearing Maintenance
- Leak Monitoring and Detection

### **Demonstrations and Hands-on activities including:**

- Shaft / belt alignment
- Gate rotor assembly
- Pipe Insulating
- Thermosyphon Oil Cooler Temperature Analysis
- Non-Condensable Evaluation
- Electrical Troubleshooting
- Pump Rebuilds
- Transfer Vessel Evaluation
- Purge Point Cycling
- Purger Timer Settings



This seminar is specifically designed for Operating Engineers, Maintenance Managers, Ammonia System Technicians, Ammonia System Operators, and Roundsmen.

This course is designed for students who have completed the "Basic Ammonia Refrigeration" course. Attendees have experience in the operation of an Ammonia Refrigeration System, or knowledge of Ammonia Refrigeration Principles. While completion of an Ammonia Refrigeration Level 1 and Level 2 class would be beneficial, the completion of these classes is not a prerequisite of this class.

Seminar reservations may be made by contacting:

**Wagner-Meinert, LLC**  
**260-615-0942**  
[registration@wmillc.com](mailto:registration@wmillc.com)

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## Key Concepts:

Ammonia Safety

Personal Protective Equipment

The Refrigerant Cycle

Safety Systems and their  
Functions

Ammonia Compliance

Standard Operating Procedures

The Block Flow Diagram



## Ammonia Refrigeration Operator Refresher Course:

The course concludes with a test to assure understanding. This is a 'site-specific' class based on our Introduction to Ammonia Refrigeration Operations class. This course is designed to cover only portions of the full PSM requirement of operator refresher training. It can be modified to the specific needs of the facility to include the areas of training not contained in other PSM related training. In the span of 8 hours the operator will be reminded of ammonia safety rules, procedures for dealing with ammonia exposures, PPE pertaining to ammonia refrigeration, and the expanded refrigeration cycle. Then discussion can turn to leak mitigation, hard wired Safety Systems, and Standard Operating Procedures. The course concludes with a test to assure understanding.

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## Understanding IIAR-2



### ANSI/IIAR 2-2019 Standard for Safe Design of Closed-Circuit Ammonia Refrigeration Systems

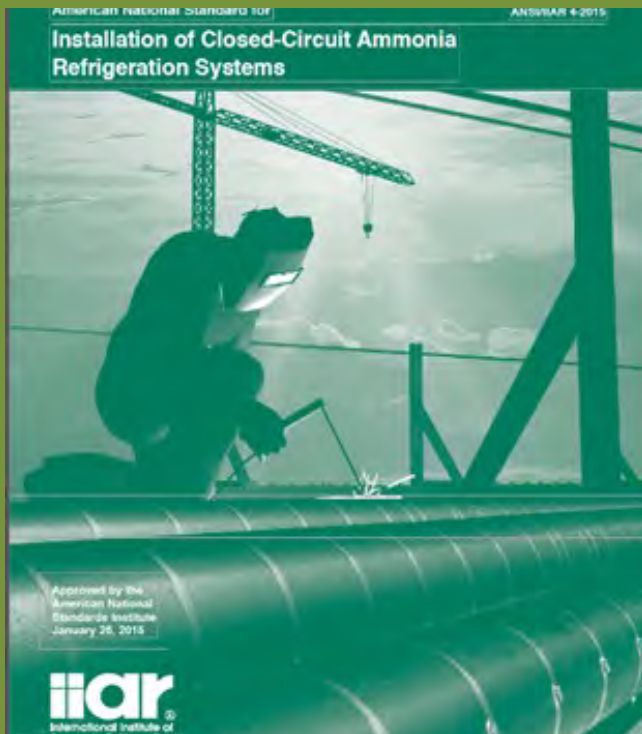
This new revision of the ANSI/IIAR-2 standard incorporates new information formerly found in IIAR non-mandatory bulletins. The addition of these requirements to the ANSI/IIAR-2 Standard represents a change from recommendations to requirements. These changes will affect the way ammonia refrigeration systems are designed and maintained. This seminar will help give you the understanding you need to implement these practices at your facility.



IIAR Standards affect the entire ammonia industry. As a service to our attendees, ANSI/IIAR-2 is available for purchase at the costs of \$150.00 each for current IIAR members and \$300.00 for non-members. The standard can be purchased from IIAR or directly from Wagner-Meinert, LLC. You do not need to purchase a copy of the standard to attend the seminar. Certificates for 8 PDH / .8 CEUs will be provided to attendees. This 8-hour course is currently being offered at various locations as part of our Free Seminar Series.

## ANSI/IIAR-4 2 Hour Seminar

“It’s free and valuable!”



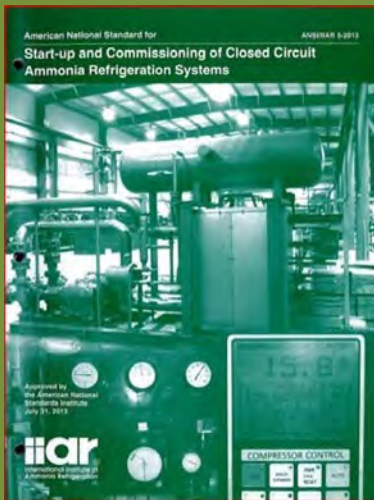
### ***ANSI/IIAR 4 Standard for Installation of Closed-Circuit Ammonia Refrigeration Systems***

ANSI-IIAR 4 specifies minimum requirements for the safe installation of closed-circuit ammonia mechanical refrigeration systems and overpressure device piping when used in conjunction with a closed-circuit ammonia refrigeration system. This seminar provides an overview of this standard aimed at those that design or install these systems as well as those that specify or supervise the construction of systems.

This course is currently being offered at various locations as part of our Free Seminar Series. The course is also available at your facility for a fee. Please contact us for pricing.

As a service to our attendees, ANSI/IIAR4 is available for purchase at the costs of \$50.00 each for current IIAR members and \$80.00 for non-members. The standard can be purchased from IIAR or directly from Wagner-Meinert, LLC. You do not need to purchase a copy of the standard to attend the seminar. Certificates for 1 PDH – .1 CEUs will be provided to attendees.

# IIAR - 5 2 Hour Seminar



## Start-Up and Commissioning of Closed Circuit Ammonia Mechanical Refrigeration Systems

Kelly Refrigeration Services is pleased to sponsor "A Guide to IIAR-5" presented by Wagner-Meinert, LLC. This new standard has changed the way ammonia refrigeration systems are commissioned. This seminar will help give you the understanding you need to implement these practices at your facility.

As a service to our attendees, IIAR-5 is available for purchase at the cost of \$50.00 each for current members and \$80.00 for non-members. The standard can be purchased from IIAR or directly from Kelly Refrigeration Services. You do not need to purchase a copy of the standard to attend the free seminar.

The course is free, but **pre-registration is required**.

You may register by:

Emailing: [Registration@KellyRefrig.com](mailto:Registration@KellyRefrig.com)

Phone: (407) 297-1111



## IIAR-6

### Maintenance and Inspection of Closed-Circuit Ammonia Mechanical Refrigeration Systems

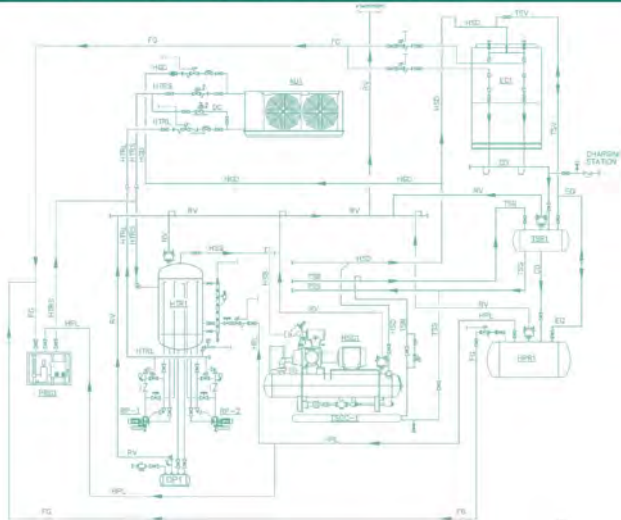
#### “What is happening to Bulletin 109”



*With all of the seemingly constant changes to Ammonia Refrigeration Codes and Standards it is important to have an understanding of what the current and upcoming regulations are and the direction they are heading. This 8-hour seminar includes topics such as:*

- Equipment Testing
  - Compressors
  - Condensers
  - Evaporators
  - Heat Exchangers
- Safe Testing and Inspection Methods
- Scheduling
- Record Keeping
- Maintenance
- Regulatory Requirements

American National Standard for  
Developing Operating Procedures for Closed-Circuit  
Ammonia Mechanical Refrigerating Systems



Approved by the  
American National  
Standards Institute  
August 21, 2013

**iiar**  
International Institute of  
Ammonia Refrigeration



# IIAR-7

## *“Developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating Systems”*

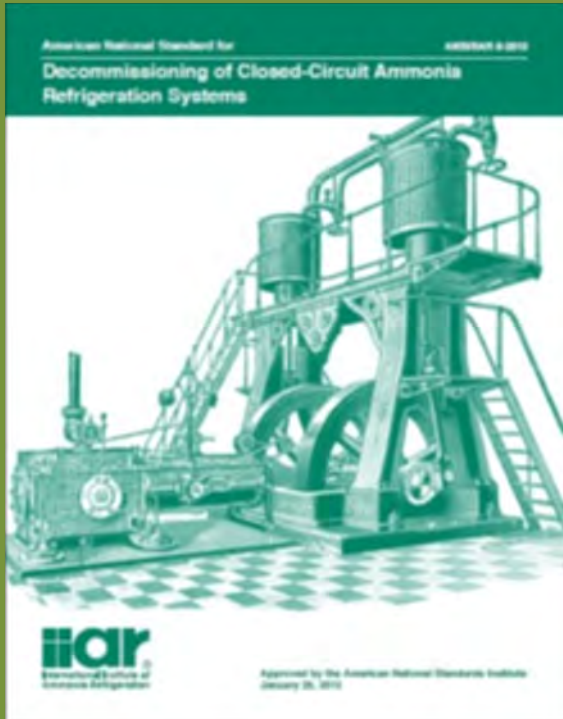
*This standard was developed by the IIAR Standards Committee using the Consensus Method of the American National Standards Institute (ANSI). ANSI-IIAR 7 specifies minimum requirements for developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating Systems. This seminar provides an overview of this standard aimed at those that develop and evaluate and validate procedures for the operation and maintenance of these systems.*

*This 3-hour course provides an overview of this standard as well as additional information to help you create compliant procedures. It is offered at various locations as part of our Free Seminar Series. The course is also available at your facility for a fee. Please contact us for pricing.*



# ***IIAR-8 4 Hour Seminar***

It's free and valuable!



**WAGNER-MEINERT LLC**  
**Engineers – Contractors**

[www.wmillc.com](http://www.wmillc.com)

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## **Decommissioning of Closed-Circuit Ammonia Mechanical Refrigerating Systems**

Wagner-Meinert LLC is pleased to offer the latest in our free seminar series, "A Guide to IIAR-8".

This new standard will change the way ammonia refrigeration components as well as entire systems are decommissioned. This seminar will help give you the understanding you need to implement these practices at your facility.

As a service to our attendees, IIAR-8 is available for purchase at the costs of \$50.00 each for current members and \$80.00 for non-members. The standard can be purchased from IIAR or directly from Wagner-Meinert, LLC. You do not need to purchase a copy of the standard to attend the free seminar.

The course is free, but **pre-registration** is required.

Registration is also available online at [www.wmi-safetyservices.com](http://www.wmi-safetyservices.com). More information is available at 260-489-7555

# Introduction to ANSI/IIAR-9 Seminar



## ANSI/IIAR 9-2020

### **Standard for Minimum System Safety Requirements for Existing Closed-Circuit Ammonia Refrigeration Systems**

This latest ANSI/IIAR standard incorporates new information formerly found in IIAR non-mandatory bulletins and new IIAR Standards. The standard provides a method to determine if existing stationary closed-circuit refrigeration systems using ammonia as a refrigerant comply with minimum system safety requirements. This seminar will help give you the understanding you need to implement these practices at your facility.

As a service to our attendees, ANSI/IIAR-9 is available for purchase at the costs of \$150.00 each for current members and \$300.00 for non-members. The standard can be purchased from IIAR or directly from Wagner-Meinert, LLC. You do not need to purchase a copy of the standard to attend this seminar.

Call (260) 399-2387 for more information or to register.  
Registration for all scheduled classes is also available online at  
[www.wmi-safetyservices.com](http://www.wmi-safetyservices.com).



# Applying the General Duty Clause

## OSHA & EPA

### “What is the General Duty Clause?”

The agencies will look, in part, to industry practices and standards for addressing a hazard in determining how each regulated entity should comply with the General Duty Clause.

As part of this responsibility, many industries have developed standards and generally recognized safe practices to manage the risks associated with extremely hazardous substances.

### “What do the OSHA and EPA regulations say about the General Duty Clause and what are their differences?”

- √ OSHA uses this as a “catch-all” for citations when no other code exists.
- √ EPA focuses on written programs and studies. They may also use this when no other code exists.
- √ Both OSHA and EPA incorporate a General Duty Clause into their regulations.

OSHA—” An act to assure safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the act . . . “

EPA—” It shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release of any substance listed pursuant to paragraph (3) which includes ammonia) or any other extremely hazardous substance . . .

The Wagner-Meinert LLC Safety Services Group is a team of dedicated Ammonia Refrigeration and Compliance Professionals, who constantly strive to provide the best in compliance, Inspection, auditing, and training services.

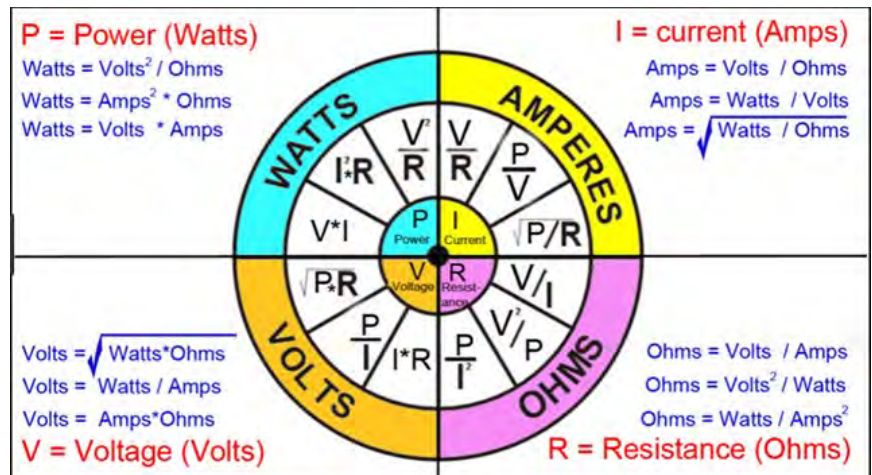
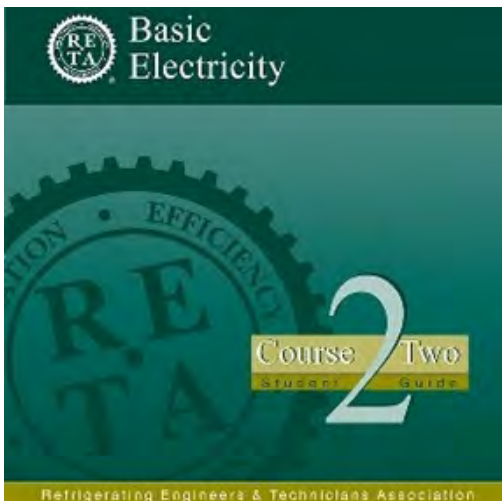
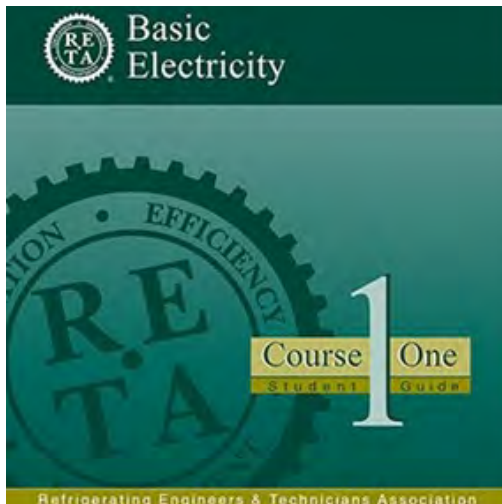
Since the inception of our group, training has been a mainstay and continues to expand and grow with the industry. We offer a wide variety of training options either at one of our general enrollment sites or tailored to and offered at your own site. Please refer to the online schedule for dates and locations.

Each of the classes can be tailored to your specific facility and need upon request.

This seminar is one of a number of “**FREE**” seminars given throughout the year at various locations. These are generally introductory and informative in nature.



# Basic Electricity



This three-day class is based on RETA books Basic Electricity 1 and Basic Electricity 2. It provides 24 PDH / 2.4 CEUs of continuing education. The class includes some hands-on work with electric circuits, primarily ladder diagrams and wiring of motor control circuits from a ladder diagram. Whether you install new equipment, maintain an existing system, troubleshoot problems in a refrigeration system or supervise those that do any or all of the above class will provide a solid foundation of knowledge to allow you to better understand and manage these activities.

This class is \$829 or \$1,309 for our exclusive "One Price Does It All" at our Fort Wayne location. The registration fee includes both RETA books, handouts, lunch and snacks each day of class.





## ***Certified Refrigeration Energy Specialist (CRES) Review***

CRES is designed to assess the mastery of refrigeration system operations and energy management strategies. While no other RETA credentials are required, CRES candidates do need to demonstrate enough knowledge of refrigeration operations to offer energy management strategies without compromising the safety or integrity of refrigeration systems.

The course syllabus includes:

### Basics of refrigeration system operation and energy use

- Highlight each component's contribution to energy use
- Address the combined impact of 2 or more components

### Energy Management

- Team Concepts
- Training
- Existing Programs

### Buildings and Auxiliary Systems

- Architecture
- Air Compressors
- Boilers
- Lighting
- Ancillary Components

### Best Practices

- Baseline Energy Use
- Identify Opportunities
- Estimates

### Basic Electricity Review

- Fundamentals
- Power and Cost Calculating

### Evaluation

- Low Hanging Fruit
- Capital Projects
- Monitor and Evaluate Progress

### Thermodynamics Review

- Enthalpy
- Psychometrics

### CRES Certification Basics

- Test Layout and Testing Fundamentals
- Energy Projects and Submissions

**Seminar reservations may be made by contacting:**

Wagner-Meinert, LLC  
260-615-0942  
registration@wmillc.com



## **Certified Refrigeration Service Technician**



**“What are the  
requirements for  
becoming a R.E.T.A.  
Certified Refrigeration  
Service Technician?”**

RETA Certified Service Technicians utilize the knowledge obtained in RETA Book 1, RETA Book 2, RETA Book 3 and RETA book 4. Skills required include information pertaining to Compressors, Oil Sampling, Insulation, Electrical and Controls Troubleshooting, Refrigeration Troubleshooting, Process Safety Management and Risk Management Programs.

Refresh the core concepts used to take the CRST exam. Expand your level of knowledge, and improve your ability to take on more complex tasks within a refrigerated facility. Apply the principles and skills learned in Refrigeration Level 1, Level 2, Basic Electricity 1 and Basic Electricity 2 classes and take them to the next level of application.

**LOOKING FORWARD TO SEEING YOU IN CLASS!**





7617 Freedom Way  
Fort Wayne, Indiana 46818  
Phone: 260-489-7555  
Fax: 260-489-7473

Refrigeration & HVAC  
Mechanical & Plumbing  
Food Process  
**PSM-RMP & Safety Services**  
Controls & Automation  
Planned Maintenance

The Wagner-Meinert LLC Safety Services Group is a team of dedicated Ammonia Refrigeration and Compliance Professionals, who constantly strive to provide the best in compliance, inspection, auditing, and training services.

Since the inception of our group, training is held in Fort Wayne, Indiana at our Training Center; in Newark, Ohio; in Orlando, Florida at Kelly Refrigeration Services; and at RETA headquarters in Albany, Oregon. Please refer to the schedule for dates and locations.

Our classes can be tailored to your specific facility and need upon request.

We also offer a number of "FREE" seminars throughout the year at various locations. These are generally introductory and informative in nature.

Additional information concerning our services is available on our website:  
[www.wmi-safety-services.com](http://www.wmi-safety-services.com)

Sincerely,

WAGNER-MEINERT, LLC.

Jeff M. Sloan, RAI  
Lead Instructor  
**Home Office: 260-489-7555**  
**Cell: 260-615-0942**  
[jsloan@wmillc.com](mailto:jsloan@wmillc.com)



***"Our Reputation is our Future"***

## ***CSB Release Reporting*** **2-Hour Seminar**

Wagner-Meinert LLC is pleased  
to offer:

### **“CHEMICAL SAFETY BOARD RELEASE REPORTING”**

Beginning March 23, 2020, facilities are required to comply with additional chemical release reporting requirements. On February 21, 2020, the Chemical Safety and Hazard Investigation Board (“CSB”), an independent federal agency charged with investigating serious chemical incidents, published a final regulation which requires facilities to report to the CSB “any accidental release resulting in a fatality, serious injury, or substantial property damage.” This seminar will discuss what those requirements are and what you need to do to meet the requirements.

This course is currently being offered at various locations as part of our Free Seminar Series. The course is also available at your facility for a fee. Please contact us for pricing.



In addition, Wagner-Meinert LLC has a complete line of courses available for all your ammonia refrigeration or compliance needs available at our facility or yours. Call (260) 615-0942 for more information or to register.

Registration for all scheduled classes is also available  
online at

[www.wmi-safetyservices.com](http://www.wmi-safetyservices.com).

# Introduction to the Combustible Dust Program

WMI has developed a 24-hour introductory course on the requirements of the National Fire Protection Association (NFPA) and the Occupational Safety and Health Administration (OSHA). The National Fire Protection Association has published NFPA 652: Standard on the Fundamentals of Combustible Dust. This course is designed to introduce to attendees the basics of compliance for facilities with combustible dust. Upon completion of the training, participants should be able to identify combustible dust hazards, be able to conduct a Dust Hazard Analysis, and gain an understanding of the 14 components of a Combustible Dust Compliance Program.

## New in 2020

NFPA 652 introduced a new term, **Dust Hazard Analysis (DHA)**, which is geared toward factories involved in basic processes that generate combustible dusts collected by simple dust collectors. The National Fire Prevention Association has updated an industry consensus standard (NFPA 652), calling for manufacturers in industries with combustible dust to complete dust hazard analysis, and begin taking actions to reduce any related hazards. The goal is to provide safety measures to prevent and mitigate fires and dust explosions in facilities that handle, produces, or generates combustible dust.



In March 2008, OSHA initiated CPL 03-00-008 Combustible Dust National Emphasis Program (NEP) to address the deflagration, other fire, and explosion hazards that may exist at facilities handling combustible dust. The purpose of this NEP is to inspect facilities that generate or handle combustible dusts which pose a deflagration or other fire hazard when suspended in air or some other oxidizing medium over a range of concentrations, regardless of particle size or shape; deflagrations can lead to explosions.

## What is Combustible Dust?



Combustible dusts are any combustible solid material composed of distinct particles or pieces, regardless of shape, size or chemical composition that presents a fire or deflagration (explosion) hazard when suspended in air. The National Fire Protection Association (NFPA) states that any material that will burn in air as a solid can be explosive in a finely-divided “dust” form, and any industrial process that reduces materials into small particles presents a potential for a serious fire or explosion.

Wagner-Meinert, LLC (WMI) is a leader in OSHA, EPA and NFPA Compliance. Register today for the Introduction to the Combustible Dust Program.

**“Before it begins work at a worksite, each employer must ensure that a competent person identifies all confined spaces in which one or more of the employees it directs may work, and identifies each space that is a permit space, through consideration and evaluation of the elements of that space, including testing as necessary.”**

**29 CFR 1926.1203(a)**

## **Confined Space Entry Competent Person**



An OSHA “Competent Person” is defined as “one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them”

**29 CFR 1926.32(f)**



# Confined Space Competent Person

---

This course is designed to teach participants:

- How to better identify hazards
- How to communicate hazards to fellow employees
- The purpose a competent person on a worksite
- And much more



**Our confined space competent persons course is setup for supervisors or employees designated by their employer to become a Competent Person.**

**“Our Reputation is our Future”**



**“The employer shall provide training so that all employees whose work is regulated by this section acquire the understanding, knowledge, and skills necessary for the safe performance performance of the duties assigned under this section.”**

**29 CFR 1910.146(g)(1)**

## **Confined Space Entry**



Wagner-Meinert, LLC's  
Confined Space Entry  
course is an 8-hour course  
consisting of both classroom  
and hands-on training.





## Confined Space Entry Training

About the course:

This course is approved by  
for 8 CEUs for Water/  
Wastewater Operators.

When we train onsite, we train  
with your equipment to give  
participants real world training  
and experience.

This course teaches nonentry  
rescue techniques.

We teach this course at our  
training centers, or we come to  
you and train on your job site.



**Our confined space entry training course combines OSHA regulations with years of on the job experience to create a course that participants will both learn from and enjoy.**



## **Key Concepts:**

Chemical  
Safety

The Refrigerant  
Cycle

Safety Systems  
and Their  
Functions

Working Around  
Ammonia

Codes and  
Standard  
Update



## **Contractor's PSM/RMP/ARM Awareness:**

### **Training uses of Toxic, Hazardous Chemicals**

Who needs Ammonia Awareness Training and why? Ammonia is a highly hazardous chemical covered by federal and local regulations. Although ammonia is used all around us in day-to-day business, reactions to exposure and releases must be immediate. This course is designed to provide hazard awareness for contract employees working in or around facilities utilizing Hazardous substances such as Anhydrous Ammonia, who are subject to the PSM/RMP standards or the Ammonia Refrigeration Management Standard.

***"Our Reputation is our Future"***



**“Training. An employer must designate and train employees to assist in a safe and orderly evacuation of other employees.”**

29 CFR 1910.38(e)

## **Emergency and Evacuation Response**



Wagner-Meinert, LLC's Emergency and Evacuation Response course will help managers and supervisors understand the importance of a well-developed emergency action plan along with how to implement and audit the EAP. Our course is designed to help your organization work as a team in case of emergency to help with accountability and mitigate losses.





# Emergency and Evacuation Response

What participants will learn:

- OSHA standards for an emergency action plan
- Roles of individuals in case of emergency
- Proper documentation of an EAP
- How to conduct a Fire/Shelter in place Drill
- Much more



This course is designed for supervisors and managers, but we welcome anyone that would like to learn more about Emergency Action Plans, and how to implement them.

**“Our Reputation is our Future”**





## ***Energy Optimization for Ammonia Refrigeration***

***"Saving Energy = Saving Money"***

In the world we live in, saving energy is a top priority not only for economics, but also for the environment. This course is designed to inform and create awareness of the energy use, loss, and cost and provide a means to begin managing and thus saving energy and money. The course addresses best practice operations, low / no-cost improvements and capital projects.

The course syllabus includes:

Basics of refrigeration system operation and energy use

- Highlight each component's contribution to energy use
- Address the combined impact of 2 or more components

Energy Management

- Team Concepts
- Training
- Existing Programs

Buildings and Auxiliary Systems

- Architecture
- Air Compressors
- Boilers
- Lighting
- Ancillary Components

Best Practices

- Baseline Energy Use
- Identify Opportunities
- Estimates

Basic Electricity Review

- Fundamentals
- Power and Cost Calculating

Evaluation

- Low Hanging Fruit
- Capital Projects
- Monitor and Evaluate Progress

Thermodynamics Review

- Enthalpy
- Psychometrics

**Seminar reservations may be made by contacting:**

Wagner-Meinert, LLC  
260-614-0942  
[registration@wmillc.com](mailto:registration@wmillc.com)





## ***Section 608 Technician Certification***

EPA regulations (40 CFR Part 82, Subpart F) under Section 608 of the Clean Air Act require that technicians who maintain, service, repair, or dispose of equipment that could release ozone depleting refrigerants into the atmosphere must be certified. Starting on January 1, 2018, this requirement will also apply to appliances containing most substitute refrigerants, including HFCs.

Technicians are required to pass an EPA-approved test to earn Section 608 Technician Certification. The tests are specific to the type of equipment the technician seeks to work on. Tests must be administered by an EPA-approved certifying organization, like RSES. Section 608 Technician Certification credentials do not expire.

This RSES based class will help to prepare you for the Universal level EPA exam. The price for the class is \$150.00 and includes the RSES test fee. Because of testing being included in the class price this class will only be offered at our in Fort Wayne, Indiana at our Training Center; in Newark, Ohio; in Orlando, Florida at Kelly Refrigeration Services; and at RETA headquarters in Albany, Oregon. Please refer to the schedule for dates and locations.

Reservations may be made by contacting:

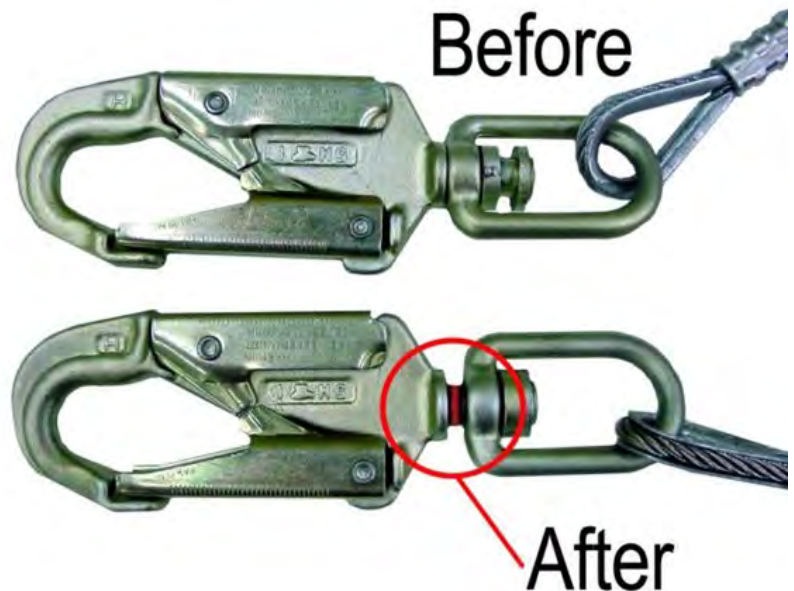
Wagner-Meinert, LLC  
260-615-0942  
[registration@wmillc.com](mailto:registration@wmillc.com)

[www.wmi-safetyervices.com](http://www.wmi-safetyervices.com)

An OSHA “competent person” is defined as “one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them”

29 CFR 1926.32(f)

## Fall Prevention



**Falls are one of the leading causes of death on construction sites. Our competent person course helps individuals to be able to identify hazards, and how to control them through means such as engineering, training and PPE.**



**Contact us to find out more!**

# Fall Protection Competent Person

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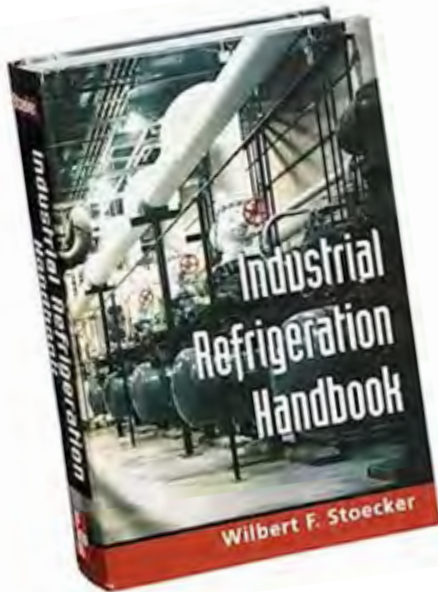
What participants will learn:

- Responsibilities of a competent person in relations to fall protection
- How to identify hazards and how to control them
- Hierarchy of controls
- How to inspect/document fall protection
- And much more



**“Our Reputation is our Future”**





## **Fundamentals of Refrigeration Engineering**

### **“Taking the basics to the next level”**

This four-day class uses The Industrial Refrigeration Handbook by W.F. Stoecker as well as Codes and Standards from organizations such as IIAR and ASME and provides 32 PDH / 3.2 CEUs of continuing education. Whether you design / install new equipment, maintain an existing system, troubleshoot problems in a refrigeration system or supervise those that do any or all of the above this class will provide a solid foundation of knowledge to allow you to better understand and manage these activities.



This class is \$1,699.00. The registration fee includes books, handouts, lunch and snacks each day of class.



**“The standard  
 that gave  
 workers the right  
 to know, now  
 gives them the  
 right to  
 understand.”**

United States  
 Department of Labor

## Hazard Communication with GHS

Wagner-Meinert, LLC's Hazard communication course offers up-to-date training that covers the latest OSHA and GHS standards to help participants understand and recognize chemical hazards.





# Hazard Communication with GHS

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About the course:

- This course is approved for 4 CEUs for Water/Wastewater Operators.
- This is a 4-hour course that teaches the importance of chemical labeling, handling and storing.
- We teach this course at our training facilities or we can come to you!
- We also teach the DOT, HMIS, GHS and NFPA labeling standards.



**Our Hazard Communication training course covers the OSHA and GHS standards to help participants understand the importance of safe handling and storage of chemicals in the workplace and home.**

**“Our Reputation is our Future”**



# How to Lead a PSM Team



## ***“What do you need to lead a PSM / RMP Team?”***

- Team Participation
- Process
- Time
- Patience
- Scheduling and Organization
- Ownership
- Lack of bias

## ***TEAM PARTICIPATION***

Team candidates include (some may represent more than one group):

- Planner Scheduler
- Maintenance Supervisor / Manager
- Safety Director
- Facility Engineer
- Plant Manager (small facilities)
- Refrigeration Contractor
- Emergency Response Team
- Other personnel who may have program responsibilities

This 3-hour seminar is currently being offered at various locations as part of our Free Seminar Series. The course is also available at your facility for a fee.



**Please contact us for pricing.**



# Incident Commander Training

## “An Incident Commander Course for Emergency Response Commanders in the Ammonia Refrigeration Industry”

The 8-Hour Incident Commander Training Course is designed to comply with the requirements of OSHA and the EPA. It is designed for Emergency Response Personnel (24-hour Emergency Responders) who will take charge of the Response Team when responding to chemical leaks or spills. Specific information pertaining to Ammonia Refrigeration will be covered. However, this information will be beneficial to Responders to any chemical leak or spill.

The course contains Information vital to the safety of Responders and the success of Incident Commanders.

### What is OSHA 1910.120?

- What other regulations are in effect for Emergency Responders?

### What is an Incident Commander?

- What they do
- What training is required
- Why they do it

### When does the Incident Commander take charge?

- Enacting the Emergency Response Team
- Which Incident Commander is in charge?

### Where to set up the Command Center?

- Preplanning for multiple release scenarios

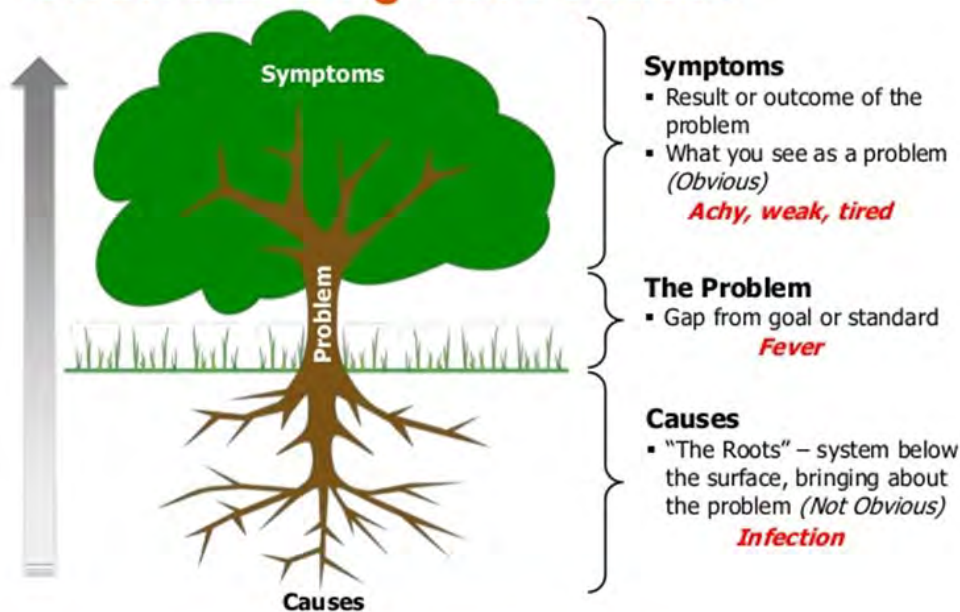


## Refrigeration, Mechanical & Food Process

MEMBER OF: IIAR-ASHRAE-RETA-MCA-MSCA-NCPWB

# Incident Investigation / Root Cause Analysis

## Understanding Root Causes



**“What is Root Cause Analysis?”**

**How does it apply to me and why should I care”?**

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7

We're all aware that an incident investigation is required on any incident that results in or could have possibly resulted in a catastrophic release of a highly hazardous substance. This regulation is spelled out in the OSHA standard for Process Safety Management, The EPA standard for Risk Management Programs, The Ammonia Refrigeration Management Program and is a key component of the General Duty Clause for each agency.

Root Cause Analysis will take an indepth look at the methods utilized in industry to determine the physical, and administrative causes associated with an incident or near miss in the workplace. This class utilizes disciplines from the 5 Why's, DMAIC, Six Sigma, and other associated tools to refine the process and determine the best solution to prevent an incident from recurring.

**LOOKING FORWARD TO SEEING YOU IN CLASS!**



# **INDUSTRIAL AMMONIA REFRIGERATION LEVEL 1**

***"A Seminar Designed for the Practicing Ammonia Operator"***

This seminar is specifically directed to Plant Engineers, Maintenance Personnel, and all individuals concerned with more efficient operation of their Industrial Refrigeration Systems. Based on the RETA Course One manual, it is intended as a complete and total introductory refrigeration course, mixed with practical field examples and open forum discussion. Course information includes:

## **HISTORY**

A brief opening section describes the history of refrigeration from its beginning through the modern day, state-of-the-art Industrial Refrigeration Facility.

## **FUNDAMENTAL ITEMS**

Will include a look at the role of technicians in the Ammonia Refrigeration Industry and the basic Refrigeration Cycle and its components:

- Definitions of Refrigeration Terms
- Basic Math
- Basic Discussions of Change of State
- Cooling
- Basic Heat Profiles
- Heat Flows

## **REFRIGERATION CYCLE**

This section will outline the basic refrigeration cycle, including:

- System Factors: Saturation / Sub-cooling / Superheat

## **PROPERTIES OF REFRIGERANTS**

This chapter examines refrigerants in areas such as:

- Cost
- Selection
- Hazards
- Environmental Concerns

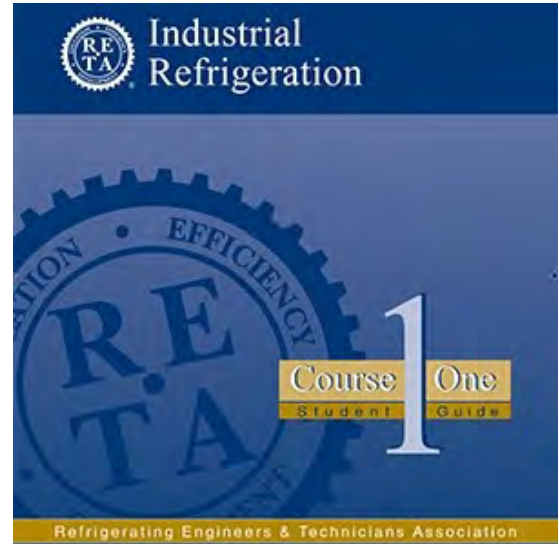
## **REFRIGERANT TABLES.**

- Pressure Drops
- Superheated and Sub-cooled Refrigerant
- Condensing Temperature

## **REFRIGERANT COMPRESSOR TYPES**

This chapter examines the types and styles of Compressors

- Reciprocating Compressors
- Rotary Vane Compressors
- Rotary Screw Compressors
- Two Stage Compression





## **OPERATION AND MAINTENANCE OF COMPRESSORS**

- Duties and Responsibilities of Operators
- Log Sheets
- Slugging
- Preventative Maintenance

## **LUBRICATION**

This chapter looks at lubrication of the Refrigeration System

- Types of Lubricants
- Use of Lubricants

## **EVAPORATORS**

This chapter looks at Air and Liquid Cooling Units, and Defrost

- Fluid Cooling
- Installation
- Air Cooling
- Secondary Coolants

## **CONDENSERS AND RECEIVERS**

- Types of Condensers
- Maintenance
- Types of Receivers

## **PURGERS**

- Purging Issues
- Types of Purgers

## **SECONDARY VESSELS**

- Accumulators
- Transfer Vessels / Pumper Drums
- Oil Still
- Recirculation Packages
- Oil Pots

## **SYSTEM DOCUMENTATION**

- Flow Schematics
- Process and Instrumentation Diagrams
- Introduction to PSM/RMP/ARM
- Standard operating Procedures
- Operation and Maintenance Information

## **VALVES AND ACCESSORIES**

- Hand Valves
- Spring Return Ball Valves
- Safety Relief Valves
- Check Valves
- Sealed Motor Valves
- Replaceable Core Filters (Nominal Micron & Sub-Micron)
- Adjustable Flow Regulators
- Interrupter Valves
- Floats Valves
- Thermal Expansion Valves
- Liquid Level Indicators
- Defrost Controllers
- Stop/Check Valves
- Hand Expansion Valves
- Hydrostatic Relief Valves
- Gas Powered Valves
- Strainers
- Fixed Flow Regulators
- Pressure Regulators
- Float Switches
- Solenoid Valves (Direct and Pilot)
- Float Drainers
- Liquid Level Controls
- As Applicable

## **AMMONIA DETECTION**

- Detector Types
- Detection Schemes

## **ADDITIONAL AREAS**

- Hands-on Standard Operating Procedure Exercise
- In-depth Question and Answer session
- Facility Tour
- Multiple tests

**Seminar reservations may be made by contacting:** [www.wagner-meinert.com](http://www.wagner-meinert.com)

Wagner-Meinert, LLC

260-615-0942

[registration@wmilc.com](mailto:registration@wmilc.com)

Refrigeration, Mechanical & Food Process

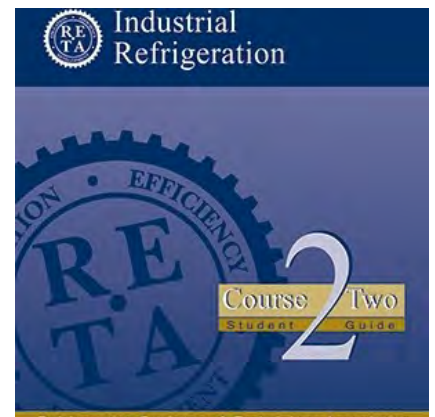
Member of: IL4R-ASHRAE-RETA-MCA-MSCA-NCPWB

# **INDUSTRIAL AMMONIA REFRIGERATION LEVEL 2**

“An In-Depth Discussion of Ammonia Refrigeration Systems”

The course uses Industrial Refrigeration II (published by The Refrigerating Engineers & Technicians Association) as a textbook. In addition to the in-depth coverage of the text, additional information (Manufacturers' literature, other text, articles, videos, and bulletins) will be covered during the course.

The course syllabus includes: DIRECT EXPANSION SYSTEMS  
This section covers application and operation of expansion devices (Hand Expansion Valves, Fixed Flow Regulators, Adjustable Flow Regulators, and Thermal Expansion Valves) as they affect evaporators.



## **FLOODED SYSTEMS**

The discussion on Flooded Systems centers around Evaporator Operation, Surge Drum Operations, and Level Control. During the discussion several types of liquid level control will be discussed, including the positive and negative attributes of each.

## **RECIRCULATED SYSTEMS**

This showcases the roots and modern-day applications of Recirculated Systems. This includes evaporator concerns, Recirculator package designs, and mechanical refrigerant pump concerns, as well as the operation of pumper drums.

## **SECONDARY COOLANT SYSTEMS**

Though the use of Brine Circulation Systems are on the decline, new applications of Ammonia Refrigeration systems are currently centering on secondary refrigerants. We discuss common applications and the pitfalls associated with them.

## **BOOSTER SYSTEMS**

As the design temperatures of Ammonia Refrigeration Systems drop, some as low as -60 F, the use of Booster Systems (multi-stage compression systems) increases. We discuss chaining compressor into stages and the use of vessels and intermediate cooling.

## **HEAT FLOW IN REFRIGERATION SYSTEMS**

This section discusses the factors controlling the transfer of heat and how these can be affected by operational changes.

## **ENTHALPY**

This chapter is intended to cover the basics of the pressure-enthalpy (Mollier Ph) diagram and at the same time explain the relevance to assessing the efficiency and proper operation of the system.

## **THE PSYCHROMETRIC CHART**

The Psychrometric Chart is a useful tool for the operator for understanding the unseen loads and factors that are affecting the operating refrigeration system as weather and seasons change.

## **EVAPORATOR DEFROST**

One of the unavoidable features of low temperature cooling is that of frost accumulation on the evaporator coils. This chapter explains the most common methods of frost removal from conventional air units.

This seminar is specifically designed for Plant Managers, Operating Engineers, Maintenance Managers, Ammonia System Technicians, Ammonia System Operators, and Roundsman.

This course is designed for students who have completed the "Basic Ammonia Refrigeration" course. Attendees who have not completed the previous course should have experience in the operation of an Ammonia Refrigeration System, or knowledge of Ammonia Refrigeration Principles.

**Seminar reservations may be made by contacting:**

Wagner-Meinert, LLC  
260-615-0942  
registration@wmillc.com  
[www.wagner-meinert.com](http://www.wagner-meinert.com)

*Refrigeration, Mechanical & Food Process*  
MEMBER OF I14RASHRAE-RETA-MCA-MSCA-NCPWB

# Industrial Ammonia Refrigeration Review

“When preparing for the RETA Industrial Refrigeration Certification Test, there are many times when reading the manuals is simply not enough”

This course is designed to allow a student who has already completed the RETA course materials the opportunity to review the information, re-establish core concepts and prepare for the test. Because this is a review course, each student must have completed the RETA Industrial Refrigeration Books 1 and 4 for CARO and additionally should have completed Industrial Refrigeration Book 2 and RETA Basic. Electricity Books 1 and 2 for CIRO.

The course syllabus includes:

Day 1 and 2 (Those wishing to prepare for CARO may sign up for days 1 & 2 at \$649)

## **Review of RETA Industrial Refrigeration 1 and 4**

An Introduction to the RETA CARO and CIRO Exams  
A supplement information package that provides sample questions for practice

## **Review of the RETA CARO and CIRO Exam Supplemental Packages**

An overview of the supplement package that will be used during the actual test

Day 3 (Those preparing for the CIRO should sign up for all 3 days at \$849)

## **Review of RETA Industrial Refrigeration 2**

## **Review of RETA Basic Electricity 1 and 2**

RETA Certification Information for

- Certified Assistant Refrigeration Operator (CARO)
- Certified Industrial Refrigeration Operator (CIRO)

Seminar reservations may be made by contacting:

Wagner-Meinert, LLC  
260-615-0942  
registration@wmiillc.com  
www.wmi-safety-services.com



*Refrigeration, Mechanical & Food Process*  
MEMBER OF: JIAR-ASHRAE-RETA-MCA-M.S.CA-NCPWB



# **Introduction to Ammonia Refrigeration Operations**

**“An 8-Hour Seminar Designed for Individuals who work around Ammonia Refrigeration Systems”**

This course is designed for personnel who may be exposed to the hazards of the ammonia refrigeration system. This course is also beneficial to operators as a refresher, and plant personnel as a "general awareness" class. This course is not designed to meet the requirements of emergency response.

## **PROPERTIES OF AMMONIA**

- Exposure Levels
- Key target areas
- First Aid
- Decontamination

## **PERSONAL PROTECTIVE EQUIPMENT**

- Eye Protection
- Respirator Protection
- Skin Protection

## **REFRIGERATION CYCLE**

- Basic Refrigeration Cycle
- Basic Heat Flow

## **AMMONIA SAFETY SYSTEMS**

- Ammonia Detection Systems
- Emergency Control Boxes

## **ISOLATING AMMONIA SAFELY**

- Types of Leaks
- General Rules for Isolation
- Emergency Ventilation
- Handling Refrigerant Valves Safely

Seminar reservations may be made by contacting:  
Wagner-Meinert, LLC  
260-615-0942  
registration@wmillc.com  
www.wmi-safetyservices.com



# **An Introduction to Ammonia Refrigeration Compliance Programs**

(PSM, RMP, ARM, OHS)

“An Introductory course on the requirements of Process Safety Management, Risk Management and the Ammonia Refrigeration Management Programs”

This course is designed to introduce Plant Managers, ERT Members, Engineers, Maintenance Managers, Maintenance Operators, Safety Personnel, and other Members of Management to the basics of compliance. Seasoned safety veterans will receive some tips and tricks on streamlining your programs

## **History**

This section of the seminar will highlight events leading up to the development of the Process Safety Management and Risk Management rules, as well as the new Homeland Security standard. This includes a look at past incidents, legislation, and interesting interpretations.

## **Process Safety Information**

We will be discussing the requirements for gathering, organizing and maintaining the Process Safety Information files.

## **Process Hazard Analysis**

Requirements include initial assessment, revalidation, and Management of Change PHAs.

## **Operating Procedures**

SOPs take many forms. Which format is right for your application?

## **Employee Participation**

What are you required to do to meet the minimum requirements of the standard?

## **Training**

Requirements for training employees, contractors, office employees, and visitors.

## **Contractors**

The requirements for contractors are much stronger than first thought.

## **Pre-Startup Safety Review**

We will be discussing the requirements for Pre-Startup Safety Reviews.

## **Mechanical Integrity**

Possibly the most important and practically attainable requirement of PSM and RMP.

## **Hot Work Permits**

We will be concentrating on the differences between the OSHA general Industry requirement and the OSHA PSM requirement.

## **Management of Change**

Management of change requirements? When is a change considered a "Replacement in Kind"?

## **Incident Investigation**

Who, when, where, how, why, and what is required for documentation?

## **Emergency Planning and Response**

Are you required to have an Emergency Response Team? What can you expect from local emergency agencies?

## **Compliance Audits**

Compliance audits are required every three (3) years. For facilities over 10,000 pounds, that means you should be able to show an inspector two completed audits, including follow-up documentation.

## **Trade Secrets**

What does OSHA consider a Trade Secret? How can the standard be used to protect the employer?

## **Off-Site Consequence Analysis**

- Worst-Case Release Scenario
- Mitigation Systems
- Populations Affected
- Number of Scenarios
- Technical Guidance
- Modeling Parameters

## **Consideration of Environmental Impact**

- Inclusion of Environmental Impacts
- Environments to be considered
- Levels of analysis required

## **Homeland Security**

- The new standard and your facility
- The registration process
- What is a Top Screen?
- What is the compliance deadline?

## **Other Topics Include**

- Recent clarifications
- Accident History
- Enforcement
- Accident Reporting

Seminar reservations may be made by contacting:

Wagner-Meinert, LLC  
260-615-0942

[www.wagner-meinert.com](http://www.wagner-meinert.com)

Refrigeration, Mechanical & Food Process

MEMBER OF: IIR-ASHRAE-RETA-MCA-MSCA-NCP-WB

## Machine Guarding & PPE Training Course

### 29 CFR 1910.212(a)(1)

“...One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. Examples of guarding methods are-barrier guards, two-hand tripping devices, electronic safety devices, etc.”



Wagner-Meinert, LLC's Machine Guarding and PPE course is a valuable course to help your employees understand the hazards and importance of safety controls.





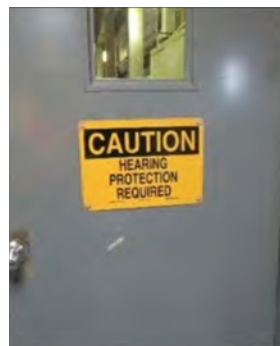
# Machine Guarding & PPE Training Course

About the course:

- This course is approved for 4 CEUs for Water/Wastewater Operators
- This is a 4-hour course but can be expanded to meet your facilities specific needs.
- We offer this course at our training facilities, or we can come to you!



**Our Machine Guarding & PPE Training course helps participants to understand the risks of not using machine guards and PPE properly and the benefits of using them properly.**



***“Our Reputation is our Future”***



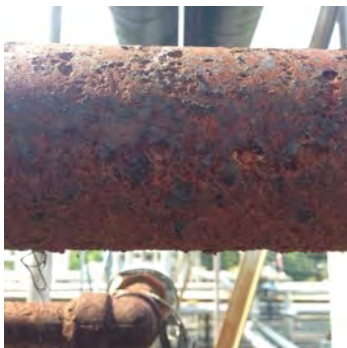
“EPA believes that owners and operators who have these (extremely hazardous) substances must adhere, at a minimum, to recognized industry standards and practices (as well as any government regulations) in order to be in compliance with the general duty clause”

*Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1)*

“The owner or owner's designated representative shall ensure an inspection program is developed and maintained to meet the requirements of Sections 5.1 - 5.3 and this section.”

*ANSI / IIAR -6-2019*

## Mechanical Integrity Solutions



All *ANSI / IIAR -6-2019* inspections are not equal. We offer an Annual Ammonia Inspection *ANSI / IIAR -6-2019* guidelines, as well as a more detailed Mechanical Integrity Inspection that goes well beyond the basic inspection criteria required within *ANSI / IIAR -6-2019*.



Wagner-Meinert, LLC's Safety Services is committed to providing quality Mechanical Integrity / Annual Ammonia Inspections.

**Call to make your appointment today!**



## Inspection Options

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Annual Ammonia Inspection

Mechanical Integrity Inspection

Mechanical Integrity Inspection  
With Nondestructive Testing Services

Enhanced Mechanical Integrity  
Inspections

Inspection Follow-Up Services

“PSM RMP” and “ARM” Team  
Leadership Services



Wagner–Meinert, LLC can provide Non-Destructive Services in conjunction with our Mechanical Integrity Inspection. We believe a two-part process (a Mechanical Integrity Inspection followed by Non-Destructive Testing of identified areas) to be the best approach. Non-Destructive Testing points are determined by the recommendations of the Inspection Team.





## **NORTH AMERICAN TECHNICAL EXCELLENCE: CORE ESSENTIALS**

### **PREPARING FOR THE NATE EXAM**

#### **Training for the HVACR Technician**

This course is essential for the new HVACR Technician or the seasoned HVACR Technician preparing to take the NATE Core Exam.

The concepts presented in this course provide a base level knowledge of principals of HVACR.

At the end of the course, students can take the Core Exam at our facility or they can schedule to take the exam at a later date. Either way, the “NATE certification tells the world that you have the know-how and ability to do the job right”.

### **Key Concepts:**

Soft Skills

Trade Tools

Heat and Matter

Electrical Fundamentals

Transformers and Motors

Electrical Diagrams

Test Instruments

***“Our Reputation is our Future”***



## OSHA 10 & 30 Hour Construction

**“The OSHA Outreach Training Program for Construction provides training for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in the construction industry.”**

United States Department of  
Labor



**Wagner-Meinert, LLC's OSHA 10 & 30 Hour Construction courses offer up-to-date training that covers multiple different topics that will help bring a heightened sense of awareness to safety.**



# OSHA 10 & 30 Hour Construction

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Topics that are covered:

- Introduction to OSHA
- Cranes
- Excavations
- Health Hazards in Construction
- Materials Handling, Storage, use, and disposal
- PPE
- Scaffolds
- Stairways and Ladders
- Tools – Hand and Power



**Our OSHA 10 & 30 Hour – Construction courses are unlike any others because we take a personal approach to understand what our participants face on a day-to-day basis and help teach practical safety techniques.**

**“Our Reputation is our Future”**

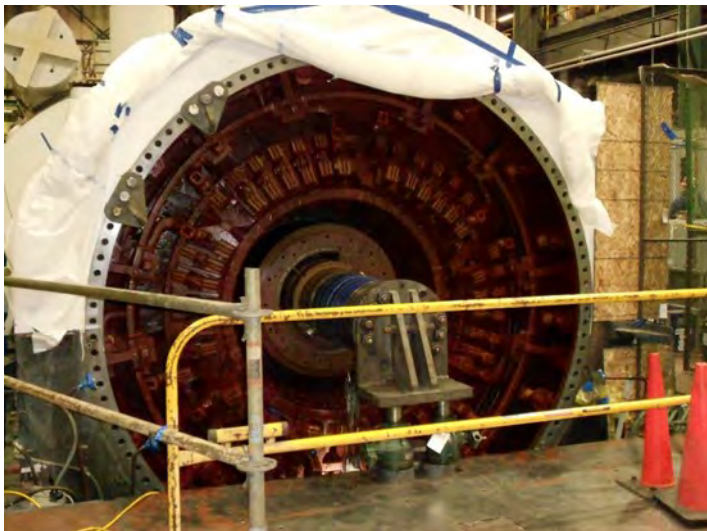




**“The OSHA Outreach Training Program for General Industry provides training for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in general industry.”**

United States Department of Labor

## **OSHA 10 & 30 Hour General Industry**



**Wagner-Meinert, LLC's OSHA 10 & 30 Hour General Industry courses offer up-to-date training that covers multiple different topics that will help bring a heightened sense of awareness to safety.**

## OSHA 10 & 30 Hour - General Industry

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Topics that are covered:

- Introduction to OSHA
- Hazardous Materials
- Ergonomics
- Personal Protective Equipment
- Fall Protection
- Exit Routes, EAP, Fire Protection
- Industrial Hygiene
- Machine Guarding
- And much more



**Our OSHA 10 & 30 Hour – General Industry courses are unlike any other because we take a personal approach to understand what our participants face on a day-to-day basis and help teach practical safety techniques.**

## Personal Protective Equipment Assessment Safety Program

Wagner-Meinert, LLC has developed a Personal Protective Equipment (PPE) Assessment Safety Program for General Industry and/or the Construction Industry. PPE Assessments identify hazards or potential hazards to ensure the correct PPE is chosen. This service is available as a standalone offering or it can be incorporated as an option in our Contract Safety Director Offering.

### Our PPE Hazard Assessment Safety Program Includes:

1. Hazard Recognition
2. Job / Task Hazard Analysis
3. Hazard Control
4. Specific PPE Safety Training



**Let's schedule a time to talk about your specific needs and desires for your safety program.**



# Preparing for a Government Inspection

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## ***“Why are inspections performed?”***

- To investigate reported deficiencies (whistle blower).
- To investigate an incident or accident.
- To assure compliance with a program, code or standard.
- To increase the inspecting organizations knowledge of potential hazards imposed by the presence or operation of the facility.
- To allow for better cooperation between agencies and industry.

## ***What is an Inspection?***

- Inspections are visits to a facility or site (e.g., business, school, landfill) for the purpose of gathering information to determine whether it is in compliance.
- Inspections also can be conducted to address a specific environmental problem (e.g., water quality in a river), a facility or industry sector (e.g., chemical plants), or geographic (e.g., a region or locality) or ecosystem-based approach (e.g., air or watershed).
- EPA Inspections are usually conducted on a single program such as the Clean Water Act, but can be conducted for more than one program.
- OSHA Inspections are more often general in nature, except for those instances where they are acting upon a compliant or accident.





## WHY?

Respirator use is a necessity in tens of thousands of facilities nationwide. The program needs to be comprehensive and flexible. Auditable and workable. This can sometimes be a tricky task.

This course will take the mystery out of program development and maintenance. All the while adding the tips and tricks, a trademark of a Wagner-Meinert's class, that will move your program from **complaint to outstanding**, and from **ignored to revered** (well, at least followed).



# Respirator Program Development

## SYLLABUS

### CHEMICAL SAFETY INFORMATION

This section of the class is designed to refamiliarize students with the Fundamentals of a Safety Data Sheet under the new Global Harmonization system.

### HOW TO COMPLY WITH THE RESPIRATORY PROTECTION STANDARD

The Respiratory Protect Standard can be confusing and determining the requirements, best practices, and maintenance provisions can be confusing. The differences between required use and voluntary use has a profound effect of the program itself.

### POLICY DEVELOPMENT

During this portion of the course, students will review a somewhat generic program and learn how to customize it for use at their facility.

### FORM DEVELOPMENT

During this portion of the course, students will learn about associated forms such as: Fit Test Protocol, Respirator Cleaning Procedures, Respirator Medical Evaluation Questionnaire, and the Qualitative Fit Test Record.

### RESPIRATOR CARTRIDGE SELECTION

During this portion of course, students will learn how to use SDS to select proper respirator cartridges.

## SYLLABUS

Read and understand a Safety Data Sheet as it related to respirator selection.

Draft a Respiratory Protection Program with associated forms.

Select respirator cartridges.

## Setting up an Ammonia Preventative Maintenance Program



Preventative maintenance is the cheapest form of Maintenance. Down time maintenance cost can be 250% of preventative maintenance costs. So why does the establishment of a program present so many obstacles?

In this course, students will learn the basics of establishing an Ammonia Refrigeration Preventative Maintenance Program.

- What are the requirements for Preventative Maintenance?
- What are the required tasks?
- What are the required intervals?
- What are the qualifications needed for specialized maintenance tasks?
- What tracking methods are required?
- What documentation needs to be retained?

***Better Maintenance Today  
= Better Operations Tomorrow***

In our tips and tricks section, a trademark of Wagner-Meinert LLC training programs, students will be exposed to some of the potential PM pitfalls.

- "I don't need a PM program; a contractor does all of our maintenance"
- How do I document variances in PM schedules due to operating history?
- How do I keep abreast of new or changing requirements?

“This section requires employers to establish a program and utilize procedures for affixing appropriate lockout devices or tagout devices to energy isolating devices, and to otherwise disable machines or equipment to prevent unexpected energization, start up or release of stored energy in order to prevent injury to employees.

29 CFR 1910.147(a)(3)(i)

## The Control of Hazardous Energy “Lockout / Tagout”



**Wagner-Meinert, LLC's Lockout/Tagout will help employees understand the importance of “LOTO” and give examples to help build a strong Electrical Safety Program.**

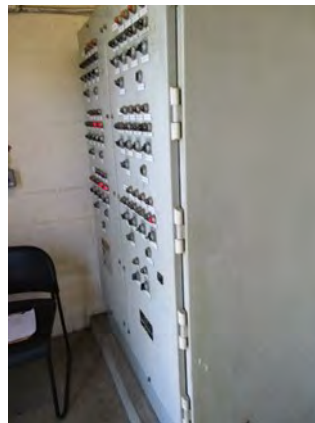




## Lockout / Tagout

About the course:

- This course is approved by for 4 CEUs for Water/Wastewater Operators.
- Who this course is for:
  - Authorized employees
  - Affected employees (attend first half of the course)
- We stress the importance of Lock-Tag-Try



**Our Lockout/Tagout training course combines OSHA regulations with years of on-the-job experience to create a course that participants will both learn from and enjoy.**

**“Our Reputation is our Future”**





## The Valve Course



Our valve course is designed to introduce the student to the various types of valves typically seen in an industrial refrigeration system. Different makes, models and manufacturers are discussed. A cut-away is provided along with a description of the operation of each valve, where you would typically find it utilized in an ammonia system, typical failure modes, and basic maintenance requirements for each one.

Designed as a primer for the new refrigeration technician, or the seasoned professional who requires the additional knowledge this course can provide.

*LOOKING FORWARD TO SEEING YOU IN CLASS!*

# Train the Trainer

## 3-day Course Outline

Cost \$1,350

Please contact Wagner-Meinert (260-615-4912) if you are interested in attending a future class.

*\*Class will be cancelled with 4 weeks' notice if 4 participants haven't signed up by the specified date*

This train the trainer course is designed for workplaces that need trainers that will hit the ground running with a high level of adult learning tools.

This is not an exercise for passing assessments, this is for people that need the skills to train in today's professional workplaces.

This Train the Trainer Training Program is designed to benefit employees that are being asked to design and/or deliver training in the workplace. Participants identify the learning needs of adults, how to plan, develop, and implement different types of training, and how to deliver and assess the success of the training.

## By the end of this training course, participants will:

- Design a training course targeted for adult learners
- Plan and deliver a course by ensuring that all the key elements of effective training are present
- Learn how to communicate one's message effectively
- Develop techniques to overcome barriers to learn
- Prepare and deliver a training session
- Learn to construct assessments to validate the learning
- Gain techniques for providing encouragement and coaching during the training process
- Create post-course evaluation forms
- Evaluate their peers and also receive feedback from them during class

## SYLLABUS INCLUDES:

### Fundamentals of Training

- Effective Workplace Training
- What makes training effective?
- Types of training
- Skills and attributes of an effective trainer
- How to provide an inclusive learning environment
- High emotion - low intelligence

### Assess the Learning

- Designing effective assessment
- Delivering and administering assessment
- Assessment tools

### **Adult Learning**

- The principles of adult learning
- Learning styles
- Presentation mechanics

### **Communication Skills**

- Communication model
- Words Not to use
- Barriers to learning

### **Deliver Presentation**

- Deliver your presentation: each student will deliver to the class a short lesson and be assessed by the class and instructor.

### **Prepare Training Session**

- Determine objective
- Introduction
- Map the content
- Build presentation mechanics
- Close out

### **Feedback Forms Self-Analysis Peer-Feedback**

- Session Plan
- Each Student will design a session plan using the tools from this course

**Seminar reservations may be made by contacting:**  
**Wagner-Meinert, LLC**  
**260-615-0942**

**[www.wagner-meinert.com](http://www.wagner-meinert.com)**

*Refrigeration, Mechanical & Food Process*

*MEMBER OF: IIR-ASHRAE-RETA-MCA-MSCA-NCP-WB*

# Understanding Daily Rounds

*"A guide to understanding Refrigeration System Vital Signs"*



**“DOES IT  
LOOK  
RIGHT?”**

This simple question is the start of every system evaluation. There is more to conducting rounds than reading gauges and checking for red lights. We ask our rounds persons to do rounds, but we must also understand how they are done. Gauges, PC's and PLC readouts are not enough. Rounds persons must also rely on their senses. The eyes, ears, and nose of the rounds person is their most important tool. These tools should be honed for optimum utilization.

- ⇒ **EYES:** Look for things that have changed. Clean valve handles, new equipment, and empty parts boxes are just the beginning. Look for items which have been moved. Look for tools, nuts, bolts, or rags around equipment. Variations in liquid levels are signs of potential system issues. Frost patterns, check for ice formations changes, it is a sign that the system is changing. A good rounds person needs to know why it is changing.
- ⇒ **EARS:** Wear ear plugs or earmuffs in areas where dangers to hearing exist. But you can use your ears even with your hearing protection in place. Have you ever noticed how quiet an engine room can get? Even with hearing protection we hear the engine room running. So we need to listen for changes. If the engine room is quiet, we need to find out why. Critical failures or ammonia detectors may have initiated shutdowns. Always be extremely cautious in a quiet engine rooms.
- ⇒ **NOSE:** Ever notice how your engine room smells? The first thing most people think of is ammonia smells. This is very important all ammonia releases should be investigated and repaired. Failed or failing electrical components may smell like “burning insulation”. Motors which have failed have a distinctive smell. Some pump oils have a distinctive smell. Glycol and brines may also have a distinctive smell.



# Understanding Management of Change



**“What’s with  
all the  
paperwork  
for replacing  
or changing  
something?”**

**“WHAT IS MANAGEMENT OF CHANGE?”** The process by which any modifications to a system are tracked and reviewed for any safety and or Engineering issues. This acts as a “checklist” for any affected programs or documentation modifications. The change could be on a piece of equipment, facility, process technology, or procedures.

- ⇒ **“WHAT IS A CHANGE?”** Any modification which affects the capability of a process to maintain control of the physical and chemical transformations taking place including all modifications to equipment, procedures, raw materials and processing conditions other than “replacement in kind”.
- ⇒ **“WHY DO WE NEED THIS?”** OSHA 29 CFR 1910.119 Process Safety Management of Highly Hazardous Chemicals; Explosives and Blasting Agents. The employer shall establish and implement written procedures to manage changes (except for “replacement in kind”) to process chemicals, technology, equipment, and procedures; and changes to facilities that effect a covered process.
- ⇒ **“WHO CAN INITIATE CHANGE?”** Anyone . . . employees, contractors, visitors etc. Suggestions for improving your system. There are no bad suggestions only those that are not feasible.
- ⇒ **“WHAT PROGRAMS DRIVE MANAGEMENT OF CHANGE?”** Program Management, Equipment / Process Information, Hazard Analysis, Training, Pre-efficient Ammonia Refrigeration System.

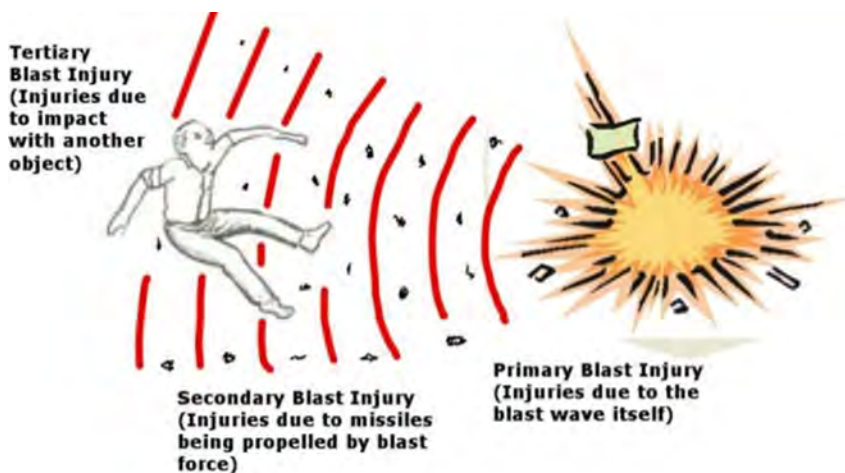
**LOOKING FORWARD TO SEEING YOU IN CLASS!**

The WMI Arc Flash Awareness Training Course meets OSHA awareness training requirements and provides employees information about the potentially hazardous Arc Flash exposure they may encounter within their workplaces. This course provides: instruction on safe work practices; how to avoid contact with energized electrical parts; and Arc Flash Avoidance.

## 4-Hour Arc Flash Awareness Course

- √ Identify Arc Flash hazards in the workplaces,
- √ Understand Protective Boundaries,
- √ Utilize protective measures such as engineering controls, and safe work practices

**Wagner-Meinert, LLC's Arc Flash Awareness will help employees understand the importance of measures to avoid and/or minimize damage from arc flash.**

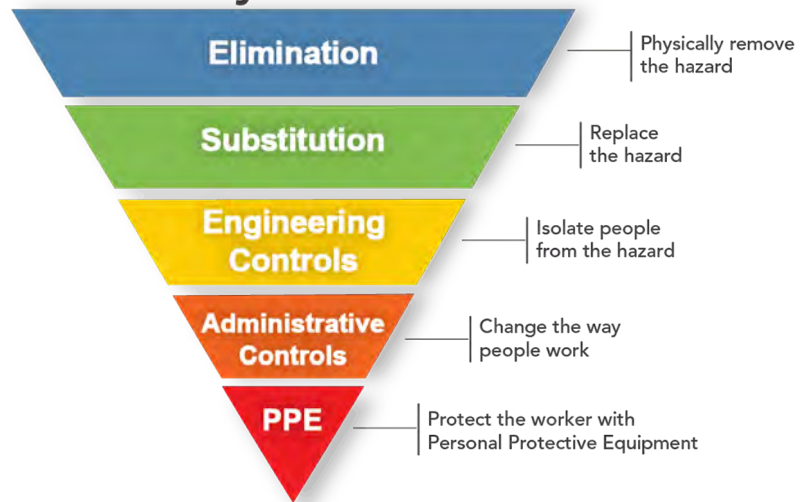


# Arc Flash Awareness

## Understanding Warning Labels:

- ◇ Arc Flash Hazard Ratings
- ◇ Arc Flash Boundaries
- ◇ Safe Approach Distances

## Hierarchy of Controls



Our Arc Flash training course combines OSHA regulations, NFPA 70-E, and years of on practical the job experience to create a course that participants will both learn from and enjoy.



**“Our Reputation is our Future”**



## **8-Hour Hazardous Materials Technician Refresher Training**

*"An 8-Hour Emergency Responder Refresher Course for  
Current 24-Hour Responders in the Ammonia Refrigeration Industry"*

*(pre-requisite: Ammonia Emergency Responder Training - 24 Hr.)*

The 8-Hour Hazardous Materials Technician Refresher Course is designed to keep the Qualified 24-Hour Responder Current with the requirements of OSHA and the EPA. It is designed for Emergency Response Personnel who are currently qualified as Response Personnel responding to chemical spills and leaks. This course will keep your Response Personnel up to date as required by the EPA and OSHA, as well as keeping the skills and information honed in the event of an emergency. This course is geared towards the Ammonia Refrigeration Industry although this information will prove valuable for any chemical leak or spill emergency.

The course contains information vital to the continued safety of Responders.

**"Our Reputation is our Future"**





## **Respirator Information. OSHA Requirements for Minimal Respirator Program**

- Written SOP's governing selection
- Selection based on Hazards of Exposure
- Respirator Assignment
- Evaluation of the effectiveness of Respirator Program
- Health and Physical Requirements for the use of Respirators
- Storage of Respirators
- Inspection of Serviceability of Respirator
- Instruction on proper Respirator use
- Approved Respirators per OSHA
- Surveillance of work area

## **Types of Protection Needed for Types of Exposure**

- Respirator Cartridge types
- Hydrostatic Testing SCBA Cylinders
- SCBA Cylinder Explosion Cautions
- SCBA Cylinder Requirements for Cascade System
- SCBA Performance Requirements
- SCBA Cylinder Identification
- Commonly used Air Specifications

## **Anhydrous Ammonia**

- Detection
- Flammability
- Potential Hazards
- Toxicity
- Effects of Ammonia
- Emergency Action

## **System Practices for Ammonia**

- Piping Requirements
- Evaporator Piping
- Suction Traps
- Compound Compression Systems
- Condenser and Receiver Piping
- Water Header
- Liquid Ammonia Recirculation Systems
- Cascade Systems

**“Our Reputation is our Future”**



## 24-Hour Arc Flash Training



Our 24-Hour course is designed to comply with the requirements of NFPA 70E. Specific information will be beneficial to anyone who is potentially involved with working on or near a live electrical circuit.

Specific areas of instruction include: Definitions, Safety Related Work Practices, Safety Related Maintenance Practices, Safety Requirements for Electrolytic Cells, Battery Rooms, Lasers, PPE, Limits of Approach and Calculation Methods, Programs and Permits, and Risk Assessment and Control.

Included with the training is a physical demonstration of how to properly don and doff arc flash gear, and how to achieve a total arc flash rating based on equipment selection.

These classes can be held at Customer locations or any of the WMI Training Facilities.

*LOOKING FORWARD TO SEEING YOU IN CLASS!*

# **24-Hour Hazardous Materials Technician Training**

**“A 24-Hour Emergency Responder Course for Responders in the Ammonia Refrigeration Industry”**

The 24-Hour Hazardous Materials Technician Training Course is designed to comply with the requirements of OSHA and the EPA. It is designed for Emergency Response Personnel who will be responding to chemical leaks or spills. Specific information pertaining to Ammonia Refrigeration will be covered. However, this information will be beneficial to responders to any chemical leak or spill.

The course contains Information vital to the safety of Responders.

## **Rights and Responsibilities**

- You, Your job and the hazards you face
- Thinking About Health and Safety
- Your Safety—How Does the Law Protect You?

## **Hazard Recognition**

- In Search of Hazards
- Physical Properties of Chemicals
- Identifying Hazardous Materials
- How do you know what is in the drum?
- Spotting Something “Nasty”

## **Physical & Safety Hazards**

- Is Your Workplace Safe?



## **Health Hazard Evaluation**

- Using the NIOSH Pocket Guide
- How Much Protection Do PELs Really Give?
- The Medical Reporter
- Toxic Effects of Chemicals
- MSDS Exercise

## **Respirator Protection**

- Elements of a Respirator Program
- Choosing a Respirator
- Your Last Gasp: Air Purifying Respirators
- Checking out your SCBA

## **Chemical Protective Clothing**

- Chemical Protective Clothing
- Health Hazard Toxicity: Choosing CPC
- Heat Stress
- Fully Encapsulated Suits (FES)
- Dress out in a Level B

## **Decontamination**

- Decontamination Basics
- Decon Drills

## **Air Monitoring**

- Getting to Know Monitoring Instruments
- Detection Schemes

## **Spill Control**

- Spills Exercise – Level A
- Emergency Communications
- Tool Use
- Emergency Lighting

## **Rescue Techniques**

- Search Patterns
- Lift and Carry Techniques

## **Emergency Planning**

- Setting Up Incident Command
- Use of System Drawings (Flow Diagrams)
- Using SARA Title III
- Emergency operating Procedures

## **Total Response Preparedness**

- Policy Development
- Emergency Drills
- Equipment Lists
- Training Schedules

Seminar reservations may be made by contacting:

Wagner-Meinert, LLC  
260-615-0942  
registration@wmillc.com  
www.wagner-meinert.com



## Industrial Refrigeration Services



**We are more than engineering and contracting. Wagner-Meinert, LLC is a highly skilled, dedicated, and proactive service and maintenance partner.**

At the end of the day, we hope that we have made a difference for you and your organization.

### Industrial Refrigeration Service

- Our service technicians are trained to maintain all types of equipment from your smallest piece of commercial equipment to your largest industrial system.

### 24/7/365 Emergency Service

- **(800) 210-6621**
- A live, U.S. based, operator is available 24/7 to take your call and dispatch a technician to your location.

### Planned Maintenance Agreements

- IIAR-6 Compliant PM Tasking & WMI Peak Performance Tasking
- Performing planned maintenance allows your facility to avoid costly down time due to break downs, and also saves money over time by allowing you to budget repairs.
- WMI uses factory recommended, and factory supplied replacement parts.

### Compressor Vibration and Oil Analysis

- Vibration Analysis can determine approximate equipment failure times to reduce or eliminate emergency breakdowns.
- Routine oil analysis is an effective way of gauging the condition of a lubricant and determining optimum change intervals — to get the most life out of the oil in use as well as provide maximum continuous protection of equipment.



### Screw Compressor Rebuilds

- Re-manufactured and re-built compressors
- Detailed documentation from start to finish

## Mechanical Services



We have a full staff of highly trained engineers to assist you in redesigning or retrofitting your building's HVAC/R Mechanical systems.

**Whether the heartbeat of your building is a chiller system, packaged rooftop units, or boilers, we can meet your mechanical needs.**

### Commercial & Industrial HVAC/R Service

- Our service technicians are trained to maintain many types of equipment from your smallest piece of commercial equipment to your largest industrial system.

### 24/7/365 Emergency Service

- A live, U.S. based, operator is available 24/7 to take your call and dispatch a technician to your location.

### Planned Maintenance Agreements

- Our service technicians are trained to provide planned maintenance services on HVAC/R systems, boilers, electronic controls, heat recovery, and mechanical systems.

### Design & Build Partner

- Complete HVAC/R, Plumbing, Mechanical, and Refrigeration systems
- Start-to-finish design, installation, service of Industrial Controls and Automation, and a P.E. on staff for State drawing approval

### Backflow Testing and Repair

- WMi is state certified in Indiana and Ohio to test, troubleshoot, and repair backflow assemblies.

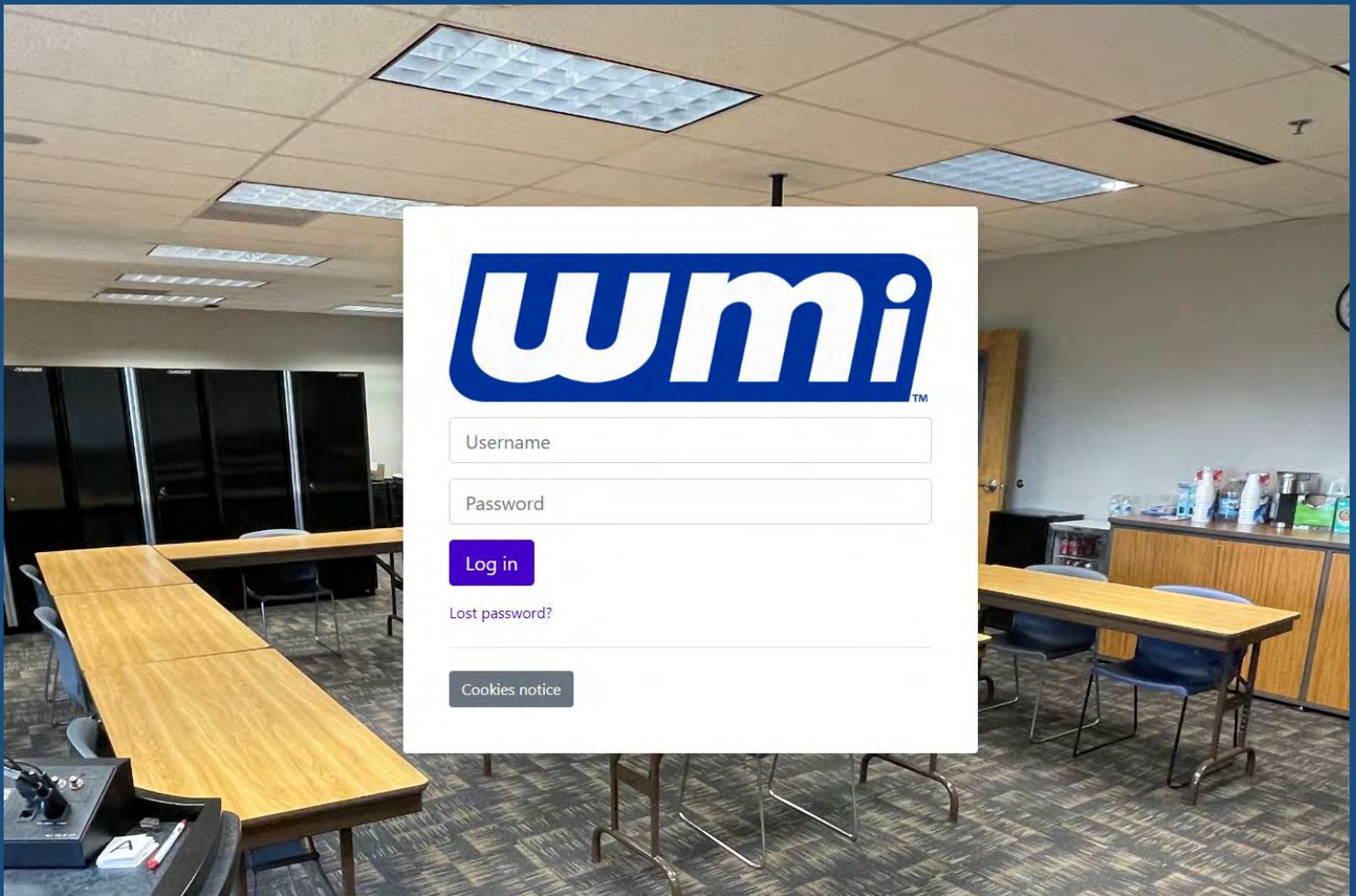
### HVAC/R Mechanical Piping

- Fully staffed piping fabrication shop onsite - designed to be flexible to meet the unique needs of your piping application and design.

### Energy Solutions & Management

- Monitoring, controlling, and conserving are key to saving energy in your organization, and are important resources that can help meet future energy needs.





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