



NH3 REFRIGERATION TRAINING

Refrigeration Operator Training: **Operator I:**

This intensive four-day training is designed for beginning ammonia refrigeration operator, manager, and/or safety personnel with limited refrigeration experience. This course will provide the student with a solid foundation of refrigeration principles, ammonia awareness and safety, and system components.

Topics include: Refrigeration Fundamentals; Refrigeration Cycle; Properties of Refrigerants; Saturated Refrigerant Tables; Compressor Types; Operation & Maintenance; Compressor Lubrication; Evaporators / Cooling Units; Condensers & High Pressure Receivers; Purging and Non-Condensables.

Operator II:

This intensive four-day training is designed for the ammonia refrigeration operator, manager, and/or safety personnel who have passed the Operator I course or have a higher level of experience and knowledge of industrial refrigeration systems using ammonia as a refrigerant. This course will expand on refrigeration principles gained in Operator I coursework and go into greater details on system operations and troubleshooting.

Topics include: Heat Flow; Enthalpy; Psychrometric Chart; Low Side Liquid Feed Valves; Direct Expansion Systems; Liquid Overfeed Systems; Gravity Flooded Systems; Secondary Coolant Systems; 2-Stage Systems; Evaporator Defrost.

CARO Review:

This intensive three-day training is designed for operators who are pursuing their RETA CARO certification. This course will review RETA IR 1 and how to use the supplement handbook on the certification test. A practice test is included as part of this course. Candidates for the CARO review should have successfully completed the RETA IR-1 course, and reviewed Chapter 7 in RETA IR-4.

Training Materials:

Each Operator I or II participant will receive the applicable Refrigerating Engineers and Technicians Association (RETA) Industrial Refrigeration Course material(s). Each participant will be provided the applicable RETA final course test and upon passing, a Certificate of Completion.

Instructor Experience:

Our instructors have years of experience and strive to make learning enjoyable and engaging. Our training programs are overseen by a RETA Authorized Instructor (RAI) with over 40 years of electrical, refrigeration, and maintenance experience as a technician/manager. All of our instructors have completed Train-the-Trainer courses and have several years of teaching experience. We bring to the table a combined total of over 100 years of refrigeration experience including Maintenance Manager, Startup Technician, Service Technician, Plant Engineering, Instructor, etc.

Contact Information:

- Questions Contact:
 - Jodie Rukamp, 262-573-7246, jrukamp@scsengineers.com
 - Mark Carlyle, 763-276-5494, mcarlyle@scsengineers.com
 - Gene Dumas, 336-337-0268, gdumas@scsengineers.com



NH3 REFRIGERATION TRAINING**2020 Operator I & II and CARO Review Training Schedule****OPERATOR I**

<u>DATE</u>	<u>LOCATION</u>	<u>COST</u>
June 1 - 4, 2020	Ontario, CA	\$1,145
June 8 - 11, 2020	Salt Lake City, UT	\$1,145
June 8 - 11, 2020**	Online - (Spanish)	\$995
June 8 - 11, 2020	Modesto, CA	\$1,145
June 15 - 18, 2020	Oakdale, MN	\$1,145
June 15 - 18, 2020	On-Line	\$995
June 22 - 25, 2020	On-Line	\$995
July 13 - 16, 2020	Bedford, TX	\$1,145
July 13 - 16, 2020**	TBD (Spanish)	\$1,145
August 3-6, 2020	San Antonio, TX	\$1,145
August 17-20, 2020	Long Beach, CA	\$1,145
September 28 - Oct 1, 2020	Houston, TX	\$1,145
September 28 - Oct 1, 2020	Ontario, CA	\$1,145

**These classes will be taught in Spanish

OPERATOR II

<u>DATE</u>	<u>LOCATION</u>	<u>COST</u>
May 25 - 28, 2020	Bedford, TX	\$1,145
July 6 - 9, 2020	Moosic, PA	\$1,145
August 10 - 13, 2020	Modesto, CA	\$1,145
September 14 - 17, 2020	Bedford, TX	\$1,145
October 12 - 15, 2020	Lancaster, PA	\$1,145
November 16 - 19, 2020	Long Beach, CA	\$1,145
December 14 - 17, 2020	Bedford, TX	\$1,145

CARO REVIEW

<u>DATE</u>	<u>LOCATION</u>	<u>COST</u>
October 6-8, 2020	Bedford, TX	\$850

Operator Training Classes Include:

- ✓ Four Days of Training with our Experienced Instructor(s)
- ✓ Applicable RETA Industrial Refrigeration Book (IR I or IR 2)
- ✓ Applicable RETA IR Book Test and Book Test Certificate
- ✓ Continental Breakfast and Lunch

Note: SCS Tracer, a Business Unit of SCS Engineers, cancellation policy applies for all courses. See individual location registration form for details

To Register or to view the current training schedule visit our website: <https://www.scsengineers.com/services/risk-management-plans-and-process-safety-management/operator-custom-psmrmrmp-training/>

CUSTOMIZED & PSM / RMP TRAINING

Contact us for on-site SOP &/or specific Refrigeration Training for operators customized for your system/facility. We also provide PSM/RMP and Ammonia Awareness training.



SCS Tracer, a Business Unit of SCS Engineers

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NH3 REFRIGERATION TRAINING

Introduction to PSM/RMP/GDC Training:

This intensive two-day session is designed for operations personnel, plant managers, facility compliance personnel, and/or safety / EHS staff who want a detailed overview of the regulatory requirements included in the PSM, RMP, and General Duty Clause regulations. This class will also cover state specific requirements such as CalARP.

Topics Covered:

- Process Safety Info
- Overview of OSHA PSM
- Overview of EPA RMP
- PHAs
- P&ID - How to Read
- Emergency Response vs Action
- Hazard Assessments
- RMP Submissions
- Overview of State Requirements
- Overview of Refrigeration Cycle
- PSM/RMP Element Requirements
- SOP Requirements including Start-Up/Shut-Down Procedures

Advanced PSM/RMP/GDC Training:

This intensive three-day session is designed for experienced PSM Program Managers, Plant Managers, facility compliance personnel, and/or safety / EHS staff who want a detailed review of some of the more complex regulatory requirements included in the PSM and RMP regulations, and that are being enforced under the General Duty Clause for facilities with ammonia charges under 10,000 pounds. This class will also cover state specific requirements such as CalARP.

Topics Covered:

- Process Safety Information, including
 - RAGAGEP - Codes and Standards
 - Maximum Intended Inventory Calculations
 - Pressure Relief Design Basis
 - Ventilation Design Calculations
- Management of Change
 - Planning through PSSR
- Release Calculations
- Standard Operation Procedures, including
 - How to develop, Review/Modify
 - Technical Operating Specifications (TOS)
- Mechanical Integrity
 - Developing a Comprehensive Maintenance Plan
 - What to Look for during Inspections
 - RAGAGEP Issues

Training Materials:

Each participant will receive supplemental information that will cover the topics listed above. A written test will be administered to the class to assess competency of the training topics, and upon successfully passing, a Certificate of Completion will be issued.

Instructor Experience:

Our instructors have years of experience and strive to make learning enjoyable and engaging. Our training programs are overseen by a RETA Authorized Instructor (RAI) with over 40 years of electrical, refrigeration, and maintenance experience as a technician/manager. All of our instructors have completed Train-the-Trainer courses and have several years of teaching experience. We bring to the table a combined total of over 50 years of refrigeration experience including Maintenance Manager, Startup Technician, Service Technician, Plant Engineering, Instructor, etc.

Registration/Contact Information:

- To Register visit our website: www.scsengineers.com/services/risk-management-plans-and-process-safety-management/operator-custom-psmrmrmp-training/
- Questions Contact:
 - Jodie Rukamp, 262-573-7246, jrukamp@scsengineers.com
 - Mark Carlyle, 763-276-5494, mcarlyle@scsengineers.com
 - Bill Lape, 651-207-2748, blape@scsengineers.com



NH3 REFRIGERATION TRAINING
2020 Introduction to PSM/RMP/GDC,
Advanced PSM/RMP/GDC
Training Schedule

INTRODUCTION TO
PSM/RMP/GDC

<u>DATE</u>	<u>LOCATION</u>	<u>COST</u>
June 2 – 4, 2020	Online	\$950
August 4 – 6, 2020	Albany, OR	\$1,050
August 18 – 20, 2020	Orlando, FL	\$1,050
September 8 – 10, 2020	Oakdale, MN	\$1,050
October 13 – 15, 2020	Raleigh-Durham, NC	\$1,050
November 10 – 12, 2020	Bedford, TX	\$1,050
December 8 – 10, 2020	Yuma, AZ	\$1,050

ADVANCED PSM/RMP/GDC

<u>DATE</u>	<u>LOCATION</u>	<u>COST</u>
June 9 – 11, 2020	Oakdale, MN	\$1,150
October 20 – 22, 2020	Oakdale, MN	\$1,150

PSM/RMP Training Classes Include:

- ✓ Two or Three Days of Training with our Experienced Instructor(s)
- ✓ Supplemental Information that will cover the topics above
- ✓ Applicable written test will be administered, upon successfully passing, a Certificate of Completion will be issued
- ✓ Continental Breakfast and Lunch

Note: SCS Tracer, an Operating Group of SCS Engineers, cancellation policy applies for all courses. See individual location registration form for details.

To Register or to view the current training schedule visit our website: <https://www.scsengineers.com/services/risk-management-plans-and-process-safety-management/operator-custom-psmrmpp-training/>

CUSTOMIZED & OPERATOR I & II TRAINING

Contact us for on-site SOP &/or specific Refrigeration Training for operators customized for your system/facility. We also provide PSM/RMP and Ammonia Awareness training.

