

REFRIGERATING ENGINEERS & TECHNICIANS ASSOCIATION

CARO Exam Information Handbook

Valid for exams offered January 1st, 2026- December 31st, 2026



Certified Assistant Refrigeration Operator (CARO)[®]

RETA is fully committed to maintaining the fairness, impartiality, validity and integrity of all RETA certification programs. RETA policies and procedures are designed to assure that all decisions about certifying every candidate are based solely on the candidate's qualifications and performance on RETA examinations and other certification-related activities.



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The Refrigerating Engineers and Technicians Association does not discriminate on the basis of age, sex, race, creed, disabling condition, religion, national origin, or any other protected characteristic.

Introduction to the Certified Assistant Refrigeration (CARO) Handbook

The Refrigerating Engineers and Technicians Association (RETA) started in 1910 with the formation of the National Association of Practical Refrigerating Engineers. NAPRE became RETA in 1961. RETA’s mission is to enhance the professional development of industrial refrigeration operators and technical engineers.

RETA has created certification programs at several levels shown in the table below. Three of RETA’s four certifications are ANAB (ANSI National Accreditation Board) accredited.

The CARO exam is accredited by ANAB (ANSI National Accreditation Board), as having met the ANSI 17024 Standards. ANAB requires that these programs are continually scrutinized by an organization whose sole mission is to establish, maintain and assure that the highest industry standards are set and met in a continuous and ongoing basis. ANAB Standards are recognized internationally and often highly regarded by regulatory agencies such as EPA and OSHA in the establishment and maintenance of the highest industrial and safety benchmarks.

The certification process helps individuals improve their skills and provides employers with a benchmark for evaluating job applicants and employees. Certification recognizes an individual’s qualifications and demonstrates knowledge.

Objectives

- To establish a nationally recognized standard of experience and training for refrigeration plant operators and supervisors.
- To assist the refrigeration industry in developing and recognizing qualified refrigeration plant operators and supervisors.
- To encourage technical training and education, as well as practical experience, for refrigeration plant operators and supervisors.
- To promote safety in industrial refrigeration facilities.
- To increase public recognition of the skills needed in the industrial refrigeration field.

RETA Certification Programs

RETA CREDENTIAL	CERTIFICATION CRITERIA	INITIAL REQUIREMENTS
Certified Assistant Refrigeration Operator (CARO)	Show entry-level knowledge needed to assist in refrigeration system operations under supervision	Score 70 or higher on the CARO exam
Certified Industrial Refrigeration Operator (CIRO)	Show knowledge needed to supervise refrigeration system operations	Two years’ experience plus score 70 or higher on the CIRO exam

Certified Refrigeration Service Technician (CRST)	Show knowledge and skills related to technical and operational support for refrigeration system	Current CARO/CIRO or documentation of at least 4 years of progressively responsible experience in the refrigeration field plus score 70 or higher on the CRST exam
Certified Refrigeration Energy Specialist (CRES)	Show knowledge required to manage energy efficiency in refrigeration systems and facilities	Score 70 or higher on the CRES exam plus Document three Energy Efficiency Activities
RETA-Authorized Instructor (RAI)	Show ability to teach industrial refrigeration operations	Show evidence of teaching industrial refrigeration plus Score 80 or higher on the RAI exam

How to prepare for these examinations

RETA publishes a series of books to help refrigeration operators gain the knowledge required to operate industrial refrigeration systems safely and efficiently. Other sources are also available to help candidates master these concepts and skills. Candidates may choose among many paths and resources to help them qualify for a RETA credential.

RETA provides study guides and other resources to help candidates prepare for a RETA credentialing examination. The study guides can be downloaded free from the RETA website. A candidate may register and pay the required fee for Book Tests and Practice Tests with a credit card before or after he or she has applied for the CARO, CIRO, CRST credential. One practice test is included in the fee of the exam application.

Book Tests

These are offered as final exams to verify completion of a course. A passing score of 70% or better on these book tests can be used to earn Professional Development Hours (PDHs) toward recertification. All RETA book final exams are available for purchase in the store on the RETA website: <https://reta.com/store/>. The cost for each RETA book final exam is \$25.00 per attempt.

Study Guides

RETA created Study Guides to help candidates prepare to perform well on CARO, CIRO, CRST and CRES. Each Study Guide can be downloaded free from the RETA website. Study Guides include reference information that will be needed to answer questions during each test. These references will appear on-screen during each test. **Candidates are not allowed to use these study guides during a RETA certification examination.** Candidates should become familiar with these references for the RETA credential they are working toward before taking the test.

- The **CARO Study Guide** provides references candidates will need to be familiar with to answer questions on the CARO examination.
- The **CIRO Study Guide** provides references and screens that candidates will need to be familiar with to answer questions on the CIRO exam. This Study Guide also illustrates how to use data in CIRO screens to evaluate and resolve problems in refrigeration system operations.
- The **CRST Study Guide** provides references and screens that candidates will use during the test. This Study Guide also illustrates how to use data in CRST screens to evaluate and resolve problems in refrigeration system operations.
- The **CRES Study Guide** provides references and screens that candidates will need to be familiar with to answer questions on the CRES exam. This Study Guide also illustrates how to use data in CRES screens to evaluate and resolve problems in refrigeration system operations. It also provides source information that supports other questions on the CRES exam. CRES candidates need to review this information to be able to answer these questions, but they do not have access to the CRES Study Guide during the full examination.

Practice Tests

- Once practice test is included in the CARO application fee.
- Information about your CARO practice test will be sent to the email address you provide on your application for the CARO exam.
- Each practice test includes questions like those that appear on the full Examination.
- Practice Tests use the same onscreen references that appear for each full examination.
- Additional practice test attempts are available for \$59 each.

Calculators

All the calculations required in this test can be completed with a simple calculator. A scientific calculator is **NOT** required to perform well on this examination. You are permitted to bring a simple non-printing, non-programmable calculator to the test, but you will be required to clear the calculator memory before you may take any calculator into the testing room. Not all Kryterion® centers provide calculators, therefore you should bring a calculator with you to the test center.

Calculators in cellphones or other devices other than a non-printing, non-programmable calculator are **NOT** permitted.

Using Onscreen References during the CARO Examination

You will improve your chances of earning your RETA credential by treating the Study Guide for your exam as you would the technical manuals in a refrigeration facility where you work. Just as your job requires that you know what is in operating manuals and when to refer to them to understand or resolve a problem, the test requires that you know what is in the References document and when to use it. **You will not be told when to use the references for this test.**

CARO examinations taken in a proctored test center display onscreen references that appear in a PDF next to test questions. This section provides a sample question and sample screens to illustrate the tools available to find information in the onscreen references during the test.

Sample References Screen 1 shows the CIRO REFERENCES Table of Contents on the right side of the screen and a sample question on the left side. CARO References use the same format. The CARO Study Guide provides the references that appear onscreen in the CARO practice test and during the full CARO examination.

The screenshot displays the 'Sample References Screen 1' interface. On the left side, there is a question: '1 of 1. Which of these becomes a risk from trying to control an ammonia fire with a CO₂ extinguisher?' with four multiple-choice options (A, B, C, D). Below the question is a checkbox labeled 'Mark this item for later review'. At the bottom of the question area are three buttons: 'Next >', 'Review All', and 'Submit Exam'. On the right side, there is a 'Table of Contents' for 'CIRO EXAM REFERENCES'. The table lists various reference items and their corresponding page numbers. At the bottom of the right side, there is a copyright notice: '© November 2020 REFRIGERATING ENGINEERS & TECHNICIANS ASSOCIATION (RETA)' and 'Page 1 of 53'.

Reference Item	Page Number
Using RETA References On-Screen	2
Formulas	4
Theoretical Discharge Chart – PSIG Scale	5
Theoretical Discharge Chart – PSIA Scale	6
Figures 3 and 4	7
Figures 5 and 7-14	8
Figure 17	9
Figure 18 – Electrical Diagram	10
Figure 7-5 – Electrical Diagram	11
Ammonia Safety Data Sheet (SDS)	12
CIRO Troubleshooting System Screens 1-24	26
Ammonia Saturated Properties Table	48

The following tools can help you use information in the CARO References file.

- Questions appear on the left side of the vertical line in the center of the screen.
- Time remaining appears in a countdown timer above the question.
- “Mark this item for later review” below the question lets the candidate flag the question to review later.
- Three buttons also appear below the question near the centerline:
 - Use the **Next** button to record the answer to a question and move to the next question on the test.
 - Use the **Review All** button to move to a screen that shows which questions you have answered and identifies questions you have marked for later review.
 - Use the **Submit Exam** button as the first of three steps required to end the test.

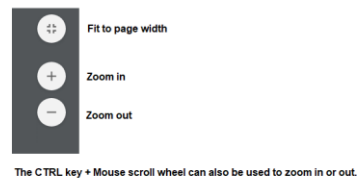
Candidates can move to each page in the onscreen references document by using one of these tools.

- Place the cursor on the icon in far-right column at the top of the screen, then drag it to move to the page with the desired information. **OR**
- Use the mouse scroll wheel to move to the page with the desired information.

Candidates can expand the right side of the screen by moving the centerline to the left. **Sample References Screen 2** also shows the Fire Fighting Measures section of the Ammonia Safety Data Sheet (SDS) where the answer to the sample question appears. “Carbon dioxide can displace oxygen” parallels answer A in the sample question.

The screenshot displays the RE TA exam interface. On the left, a question is shown: "1 of 1. Which of these becomes a risk from trying to control an ammonia fire with a CO₂ extinguisher?" with four multiple-choice options (A-D). Below the question are three navigation buttons: "Next >", "Review All", and "Submit Exam". On the right, "Sample References Screen 2" is displayed, showing the "5. Fire Fighting Measures" section of an SDS. It includes "Extinguishing" instructions (Water Spray, Carbon Dioxide, etc.) and "Special Exposure Hazards" (Gas may ignite at 16% and 25% in air, etc.).

Three navigation buttons appear on the far right side of the screen during a test. The top button fits the image to the width of the window on the right side of the screen. The + and – icons zoom in or out. The CTRL key + Mouse scroll wheel also can be used to zoom in or out.



Do not use the CTRL + F keys for searching in the PDF as this will cause the testing system to think a security violation is happening and will automatically log the test taker out and the login screen will appear.

CARO Examination Content

The CARO examination is based on concepts presented in the following RETA texts:

- *Industrial Refrigeration I*
- *Industrial Refrigeration IV* (safety section only)

Other publications are available that introduce the content areas examined in the CARO test. RETA does not endorse or guarantee that all content areas in the CARO exam are covered in these materials. The last page of this handbook lists alternative study references and training options.

CARO consists of 110 questions in English. Candidates have three hours to complete the test. The minimum passing score is 70%. CARO also includes 10 questions that are being evaluated for use in future exams. Candidate scores are for just the 100 active questions in the test. These pilot questions are not counted in the candidate's test score.

The following content areas are in the CARO examination.

Refrigeration fundamentals	9 Questions
Refrigeration cycle	8 Questions
Properties of refrigerants and refrigerant tables	7 Questions
Types of refrigerant compressors	6 Questions
Operation and maintenance of compressors	14 Questions
Lubrication	10 Questions
Evaporators and cooling units	9 Questions
Condensers and high-pressure receivers	12 Questions
Purging	5 Questions
Safety, hazards, and prevention	20 Questions
Total	110 Questions

This content outline is supported by refrigeration industry surveys and continuous reviews by the RETA Certification Committee. Ten more unscored pilot questions are spread across multiple content areas. You must surrender any notes you take during the test before you leave the test center.

Eligibility for RETA Certification

No individual is eligible for RETA certification unless he/she is in compliance with the RETA Code of Conduct. RETA may deny, revoke, suspend, or otherwise act upon certification or membership of any individual who is not in compliance with the RETA Code of Conduct.

The individual must truthfully complete and sign the RETA application for certification and shall provide additional information as requested. All documents and information provided to RETA as part of the certification process are the property of RETA and will not be returned.

All RETA members, certification candidates and certificate holders agree to waive all claims against and will hold harmless RETA, its staff, volunteers, and agents which arise out of or relate to any RETA investigation and review of alleged violations of the RETA Code of Conduct.

RETA Code of Conduct

The RETA Code of Conduct sets the professional standards required of all RETA members and certificate holders. RETA certification and membership affirms your agreement to abide by these standards to advance the integrity, honor and prestige of all persons and organizations in the refrigeration industry. By signing the RETA Code of Conduct you agree to strive to meet the following professional standards of behavior:

1. I recognize the urgency of protecting the health and safety of all personnel in refrigeration facilities and the public and agree to safely handle and operate refrigeration equipment and supplies at my level of knowledge, skill, and experience.
2. I accept responsibility for assuring that those persons for whom I am responsible will be qualified by training, education, and experience to operate the specific equipment in the refrigeration facility at which I am employed.
3. I will promote training and education of those refrigeration personnel with whom I come in contact to assure that they are qualified to maintain and improve the safety and energy- efficient operation of refrigeration facilities for which they have any responsibility.
4. I accept responsibility for my own continued professional development as well as that of those I supervise and will participate in appropriate certification and training activities to acquire, demonstrate, and maintain competence in the refrigeration industry.
5. I will comply with all laws, rules and regulations that apply to safe operation of refrigeration facilities.
6. I will act responsibly and with integrity in all refrigeration industry and RETA activities by adhering to high standards of professional conduct to protect the health and safety of employees, employers, the public and all others affected by refrigeration facilities and practices.
7. I will avoid conduct or practices that could discredit the refrigeration industry like deceiving or harming employees, employers, or the public.
8. I will provide accurate and truthful information related to all aspects of my RETA membership, certification and refrigeration training and experience.
9. I will follow all requirements established by RETA regarding references to my RETA certification and membership when describing my qualifications, training, and experience in the refrigeration industry.
10. I will cooperate with RETA in any investigation of test security, validity, conflicts of interest or possible violations of the RETA Code of Conduct that warrants my participation.
11. I will maintain open and constructive relationships with those governmental and regulatory authorities relevant to the refrigeration industry with the intent of fostering an atmosphere of mutual trust and respect on behalf of myself and those for whom I am professionally responsible.
12. I will refuse to engage in any behavior that could be perceived as a threat to the health and safety at refrigeration facilities, of other employees and the public. This includes but is not limited to problems with chemical dependency, substance abuse, verbal threats or physical violence that could adversely affect the safety of refrigeration facilities.
13. I will support RETA local chapters to advance local influence and adherence to the RETA Code of Conduct.
14. I agree to inform RETA without delay of any changes that restrict my capacity to perform competently, safely and effectively without endangering the welfare of myself or others if I can no longer fulfill my obligations as a RETA-credentialed professional.
15. I agree to return any RETA credential to RETA if it is suspended or revoked.

Adhering to the RETA Code of Conduct

All activities of the Refrigerating Engineers and Technicians Association (RETA) shall be conducted with policies and procedures consistent with RETA Bylaws and the RETA Code of Conduct. The RETA Code of Conduct shall apply to all RETA members, directors, officers, staff, task force members, certification candidates, certificate holders, employees, and consultants. The RETA Code of Conduct is intended to maintain the confidence and respect of industry employers and their employees. It also is intended to protect the public's health and safety as well as every person in a position of responsibility in the refrigeration industry.

Nondisclosure Agreement for RETA Certification Examinations

All RETA candidates must agree to the following policy statement protecting the security and validity of RETA examinations before they can begin their test. Each candidate must reaffirm their agreement to adhere to the RETA Code of Conduct and these rules before they may begin a RETA examination.

Any use of unauthorized materials during administration of a RETA examination may result in immediate disqualification and an automatic failing score. RETA may withdraw eligibility for certification from any candidate who uses prohibited materials during an examination, has any unauthorized contact with anyone other than test center staff during an examination, or engages in other unethical, disruptive, or unprofessional behavior at a test center.

RETA rules for candidate misconduct or suspicious circumstances, investigations, reexamination, disciplinary action, and appeal procedures appear in the RETA Certification Exam Handbook, which also includes the RETA Code of Conduct. All RETA candidates agree to cooperate with RETA in any investigation of test security, validity, conflicts of interest or possible violations of the RETA Code of Conduct as part of their application to take this examination.

RETA policies also prohibit unauthorized possession or use of RETA examination materials in any form, including but not limited to recreating from memory, posting online or on any website, reproducing or disclosing to others any examination question or test-related materials or content that RETA does not release to all certification candidates.

Any violation of these rules may constitute copyright infringement of RETA property and can be subject to legal action to recover the cost of creating additional questions and forms of RETA examinations. Any comments about the content of a specific question on a RETA exam can be shared only with RETA directly. Such comments may not be posted on any blog or other online discussion forum without violating US copyright laws that protect secure test materials. Such violations could result in disqualification for RETA certification of all candidates from any school or training program whose staff or students are found to have compromised the security and integrity of a RETA exam.

Options for Taking a RETA Examination

RETA administers certification examinations using the following delivery methods:

- Kryterion® Testing Network (KTN) test centers are available in over 1000 locations in the U.S. Most KTN centers are in community colleges, universities and in training centers.
- RETA Network Testing Centers are located in facilities where industrial refrigeration training is offered.
- Do not contact the test center. RETA exams can only be scheduled by contacting RETA via email certification@reta.org or phone 541-497-2955.

Candidate Behavior during RETA Certification Exams

You must present TWO forms of identification to test center staff on the day you are scheduled to take a RETA exam. They will be looking for a second signature that matches the one presented as your primary identification. Be sure that you have signed the reverse side of your credit card if you are going to use one as a second form of ID.

Any use of unauthorized materials during administration of a RETA certification examination may result in immediate disqualification and an automatic failing score. RETA may withdraw eligibility for certification from any candidate who uses prohibited materials during an examination, has any unauthorized contact with anyone other than test center staff during an examination, or engages in other unethical, disruptive, or unprofessional behavior at a test center.

RETA may determine that a test score is invalid if evidence of misconduct or suspicious circumstances threaten the validity and security of RETA testing and certification programs. All candidates agree to cooperate in such investigations if evidence of problems in test administration or inappropriate candidate behavior before, during or after a test are reported as part of their application for a RETA credential. If doubts are raised about a score because of these or other circumstances, RETA expects cooperation in any RETA investigation of possible violations of test validity and security.

RETA reserves the right to cancel any exam score if, in the sole opinion of RETA, there is adequate reason to question its validity. RETA, in its discretion, may offer the individual an opportunity to take the examination again at no additional fee, offer the individual an opportunity to take the examination again including payment of all fees, or proceed with disciplinary action as described in these procedures.

Following any administrative exam irregularities, the Executive Director, on advice from the Consulting Psychometrician, will review the matter and decide whether to cancel scores, and whether the candidate may be offered a retest at RETA expense or at his/her expense. Such actions may be subject to appeal as described in these procedures.

Disciplinary Action

RETA may reject or suspend the eligibility of any certification candidate, suspend, or revoke the certification of any certificate holder, or refuse to recertify any person who is found to have engaged in any of the following violations or any part of the RETA Code of Conduct:

1. Obtaining or seeking to obtain RETA certification through submission of fraudulent, misleading, or untruthful statements or documentation of qualifications, training, and experience.
2. Unauthorized possession or use of RETA examination materials in any form, including but not limited to recreating from memory, copying, posting on any website, reproducing, or disclosing to others any examination question or test-related materials or content not released by RETA to all certification candidates.
3. Any conviction for criminal acts in connection with activities for which the individual is certified by RETA, including but not limited to drug- or alcohol-related offenses which could make the RETA- certified individual a possible threat to the health and safety of refrigeration facilities, other employees, and the public.
4. Unauthorized or illegal use of any registered certification mark or logo owned by RETA.

RETA Disciplinary Policy and Procedures provide detailed information for bringing charges and for hearings and appeals related to disciplinary charges.

Completing the Online Application

Your RETA membership must be current at the time of the application to qualify for the member rate. If your company is a corporate member, you (the certification applicant) must be one of the company's designated members to qualify for the member rate. You need to be signed into your own account at www.reta.com to receive the membership discount. **Online applications must be completed by the candidate.**

1. All RETA certification candidates must begin by submitting an online exam application. Applications are located at www.reta.com under the certification tab. Click on the certification for which you are applying for.
2. Begin the application by clicking on the orange button "CARO Application."
3. Follow the instructions and fill out all the required fields.
4. To complete the checkout process after completing your exam application, click on "bill me" to create an invoice or complete the process by entering your payment information.
5. Payment can also be made by calling 541-497-2955 or in the form of a personal or company check. Purchase orders from companies are accepted, but the test **CANNOT** be scheduled until the purchase order has been paid by the company. Checks must be made payable to the Refrigerating Engineers & Technicians Association and mailed to the below address:
RETA Certification
1725 Ferry St SW
Albany, OR 97322
6. Your application is incomplete until all information is provided and your fees are paid. You will be informed of any steps needed to finish your application. No test can be scheduled until these steps are completed. RETA reserves the right to verify the eligibility of any applicant.
6. All RETA certification applications expire after one year from the date of payment unless you request a 90-day extension before the end of your eligibility period. You forfeit your exam fees if you do not meet this requirement.

CARO Examination Fees

RETA Member	\$570.00
Non-Member	\$865.00

Your RETA membership must be current at the time of application in order to qualify for the member rate. If your company is a corporate member, the certification applicant must be one of the company's designated members to qualify for the member rate.

Returned Check Fee of \$50.00

Any applicant whose personal check is returned for insufficient funds is required to pay this fee.

Remittance of fees thereafter must be by money order or certified check. The fee must be paid before the exam can be scheduled.

Scheduling an Examination

When your application is approved and all required fees are paid, you may schedule your exam. Test center appointments are scheduled through RETA. Contact RETA Certification Staff at 541-497-2955 on business days between 7:30 am and 4:00 pm, Pacific Time. Be prepared to commit to securing a location, date, and time before you call RETA. Most Kryterion® test centers have from 2 to 4 test stations available at a time. Staff will do their best to find a site and time that suits your needs.

Test Authorization Code

After you select a test location and date, you will receive an email from RETA that includes your examination authorization code. The proctor will not be able to start your exam without the code. It is best to print the email and take it with you. You will not be admitted to the examination without your test authorization code and proper photo identification.

Absences and Late Withdrawals

You will forfeit all fees if you fail to show at the test center at the appointed time without rescheduling at least four business days before your scheduled test date. If you withdraw your application for RETA certification at least five business days before your scheduled test date, **you may request a refund of up to half the RETA application fee.** If you are not able to test, you may not transfer your registration to another candidate.

Taking the Test and Receiving Your Scores

Each question will appear on the test center screen one at a time. You can record your answer to each question, skip the question, or mark it for review. You can review questions you have skipped or marked for review at any time. After you indicate that you have finished answering and reviewing questions, you may end the test. The test will end automatically if your time expires.

After you finish the test, there will be a short survey with a few questions about your RETA testing experience. This is the best place to inform RETA about any concerns you might have about the test. RETA uses this feedback to improve the exam. You are encouraged to participate.

Your score report will tell you whether you passed or failed the examination, the percent of questions answered correctly, and section sub scores. This report is e-mailed to you after you take the exam (this is one reason that it is essential that you have a valid e-mail address). A follow up report and your certificate will be mailed to you by Headquarters.

Rescheduling an Examination

Candidates may reschedule a test by contacting RETA Headquarters no less than four business days (96 hours) before the scheduled date of their test. **Tests that are rescheduled within the 96-hour deadline will require a processing fee of \$150 to cover the charges that RETA will be charged by the testing company. The fee must be paid before the exam can be scheduled.**

Re-examination

If you do not pass the examination, you may take the examination again **one time** at two thirds of the fee paid within one year following your initial test (\$380.00 members / \$580.00 non-members). To do so, you must submit a new application and the required fee. Minimum time between testing sessions is two weeks when accounting for US Postal Service delivery service.

If you fail the re-test, the third exam fee is at full price. You will have 90 days after the approval and payment of fees to schedule and complete a retest.

Confidentiality and Public Information

To ensure the security of the examination, the test materials are confidential and individual results will not be released to any person or agency except the candidate and RETA. A candidate's individual test results will be released to others only upon the candidate's written request. **To avoid the possibility of a release of your test results to others it is necessary that you provide RETA an email address that you control.** The instructions and communications, including test results, are emailed to the address you provide. If you use some other person's email address as the contact address for you, they may have access to your results information.

When an operator has achieved RETA certification, that fact is considered public information. It is RETA's policy to verify certification upon request. RETA does not provide information about certification status other than whether an individual is certified.

Comments about Your Testing Experience

All candidates have the opportunity to comment about their RETA testing experience, the test center, and the test in a short survey at the end of each examination. All candidate comments are reviewed by the RETA psychometrician and the RETA Certification Committee.

Comments about Test Questions

Any candidate may request a review of the validity of a question on a RETA examination in their comments at the end of each examination period by listing the question number and describing why he/she thinks the question warrants further review. All questions on each RETA certification exam have been validated by the RETA Certification Committee and RETA's psychometrician (testing consultant). Candidate comments about any RETA exam question result in further review and revalidation of the question.

RETA also conducts periodic statistical reviews of candidate performance on each question. Even if no candidate(s) comment about a question, this performance data may trigger review and revalidation of a question. If changes in a question are justified during these reviews, all scoring adjustments are applied automatically to all candidate scores. Revised score reports are issued to any candidate whose status changes from fail to pass as a result of these procedures.

Appealing Scores

An appeal procedure is available to individuals who wish to contest an adverse decision made by RETA.

Candidates do not have the right of appeal of actions: (1) resulting from failure to meet published procedure(s), or (2) based on RETA's actions in setting a passing score which resulted in the individual's failure to pass the certification examination.

Candidates may appeal the results of an examination in writing via U.S. Mail, facsimile, or E-mail to RETA Headquarters within 14 calendar days after their examination date. RETA will respond in writing to all appeals after review of the candidate's results by the RETA Certification Committee.

Requests for Special Accommodations

Candidates who are unable to complete a RETA certification examination under standard conditions must submit documentation to support their request for special accommodations. This request must specify the modifications of the examination procedure that they believe are appropriate and must be submitted with the initial application for RETA certification or recertification. RETA will evaluate each request to determine that it does not interfere with the candidate's ability to perform the work of a certified refrigeration professional.

Any special accommodations must meet the criteria defined by the Americans with Disabilities Act (ADA). Candidates who qualify for such arrangements should be able to document similar steps that were part of their prior training and testing experiences. ADA also requires that RETA determine that a candidate who receives such accommodations must still demonstrate the ability to safely and effectively perform the duties required to qualify for the credential being awarded. ADA does NOT allow special accommodations that would substantially alter the skills required to perform a job or could limit a candidate's ability to protect the health and safety of employees and the public.

Test centers may accommodate candidates with disabilities that interfere with test taking.

Call RETA HQ to confirm that the testing center has the necessary fixtures and facilities to address your specific needs.

Improper Use of RETA Identification and Certification

RETA examinations and their content are the property of RETA. These examinations are available only to those persons who desire in good faith to become certified by meeting RETA certification requirements. By applying for RETA certification, each candidate agrees to the following provisions.

1. Refrigeration professionals may use the Certified Assistant Refrigeration Operation (CARO) designations when they meet all requirements established by RETA. A CARO certificate holder has demonstrated expertise gained from study, training, and experience in the safe handling of materials and safe operation of refrigeration equipment and facilities.
2. All RETA examinations, certificates, cards, logos, patches and emblems and the names Certified Assistant Refrigeration Operator (CARO) are property of RETA and may not be used in any way without the express written consent of RETA. Individuals who pass current RETA examinations must comply with RETA rules in all references to RETA certification.
3. Any individual RETA suspends, reprimands, limits or revokes from RETA certification or authorization due to failure to meet RETA requirements shall immediately relinquish, refrain from using and correct at their own expense any outdated, inaccurate, or otherwise inappropriate use of any RETA certificate, card, logo, patch, emblem, and references to CARO, and RETA certification.
4. If the individual refuses to relinquish immediately, refrain from using and correct at his or her expense any misuse or misleading use of such items when requested, the individual agrees that RETA shall be entitled to obtain injunctive relief, damages costs and attorney's fees incurred in obtaining any such or other relief.

Changes in Certification Criteria

RETA may approve changes in these certification requirements at its discretion. The current version of this Handbook constitutes notice of these changes to applicants, candidates, and certified persons. RETA policies at the time a candidate is initially certified remain in effect for the three-year term of certification. Any new or amended requirements must be met at the time a candidate applies for recertification.

Renewal of Certification

The RETA Code of Conduct requires all RETA certificate holders to participate in appropriate certification and training activities to demonstrate and maintain their competence in the refrigeration industry. Each RETA certificate expires three years after it is issued. Recertification candidates may establish that their knowledge and skills are still current for their level of RETA certification either by taking the current examination or by providing RETA with the required documentation of his/her qualifications for recertification. Recertification candidates whose past RETA credential has expired must retest. RETA does not accept PDHs from candidates whose RETA credential has expired. RETA does not accept PDH that are not dated during the three-year cycle of an active certification.

Continuing education credits can be earned by documenting participation in professional training related to RETA certification at RETA chapter meetings, the RETA Annual Meeting, employer- sponsored training and refrigeration training seminars.

Training is measured in Professional Development Hours (PDHs) as determined by RETA.

CARO recertification requires 24 PDHs relevant to the practice of refrigeration operation / service / repair / maintenance / engineering. One PDH can be earned for 50 minutes of instruction or participation. If a program awards continuing education units (CEU) rather than professional development hours, one CEU equals 10 professional development hours of class in an approved continuing education course. Documentation of PDHs for recertification must be submitted in the RETA Recertification Database RCD). Click here for more information about the RCD <https://reta.com/page/certificationdb>. The Appendix 500-B PDH table list various training activities and the PDH value. The Appendix 500-B PDH table is on the RETA website, www.reta.com/recertification.

Professional development activities may include:

- Successful completion of a college or university course in the area of refrigeration operating / servicing
- / Installation, related sciences, and engineering ethics. RETA will award PDHs based on a transcript documenting successful completion of any such course(s).
- Successful completion of professional engineering courses or programs in which professional development hours are earned.
- Successful completion of refrigeration operating programs, seminars, tutorials, workshops, short courses, on-line or in-house courses.
- Completing RETA online book tests award 20 PDH if the test is passed with 70% or higher.
- Attending program presentations at related technical or professional meetings, including the RETA Annual Conference.
- Teaching or instructing. Teaching credit is valid for teaching a course or seminar for the first time only. Two PDHs may be earned per lesson plan developed.
- Authoring papers or articles that appear in nationally circulated journals or trade magazines or presented to a professional society or organization. A maximum of 10 PDHs per paper or presentation per renewal are allowed for this activity.
- Active participation on a RETA committee or holding an office in a Chapter as an elected officer. Two PDHs will be awarded per committee membership or office held. A maximum of 8 PDHs may be allowed.

PDH programs, activities, and course requirements

- Each approved course, program or activity must contribute to the advancement of professional skills and/or scientific knowledge of the recertification candidate in the practice of refrigeration system operations, services, design, installation and/or maintenance.
- Each approved course, program or activity must foster the enhancement of general or specialized practice and values of refrigeration operations, related sciences and/or engineering ethics.
- Each approved course, program or activity must be developed and presented by persons with education and/or experience in the subject matter of the program.

Acceptable Providers for PDHs

Shall include, but not be limited to the following:

- Coursework provided by RETA Authorized Instructors (RAIs) using RETA educational materials.
- Chapter meetings with an educational presentation by a guest speaker (name/date/topic needs to be recorded on a roster certified by a Chapter Officer and filed with RETA HQ).
- RETA Annual Conference workshop courses.
- Regional RETA conference workshop courses.
- Colleges, universities, or other educational institutions presenting courses related to industrial refrigeration.
- Other technical or professional societies or organizations including manufacturers (factory training either site-specific or in factory – procedures for documenting this training will be made available from RETA HQ).

RETA shall evaluate whether to award PDHs for training requested in an application for recertification or in the RETA Certification Database based on documentation provided by the candidate. PDH must be dated during the time in which the certification is active. Certification renewals cannot be requested more than 6 months prior to the expiration date.

Candidate Notification and Appeals

- RETA will inform the candidate in writing whenever PDHs requested as part of a recertification application cannot be applied toward renewing a RETA credential. The candidate must respond in writing within 30 days with any new evidence in support of the candidate's recertification before a decision to deny credit toward recertification will be reconsidered by RETA. Unsupported claims will be denied.
- RETA may require additional evidence demonstrating compliance with these requirements from any candidate. Each recertification applicant must provide evidence that training meets these recertification requirements before PDHs will be applied toward recertification.

CARO Application Checklist

- Complete an online exam application.
- If you are a RETA member, sign in at www.reta.com. Click on the certification tab, then click on CARO. If you are not a RETA member, go to: <https://reta.com/page/caro>
- Click on the **orange** button to begin your exam application.
- Pay the certification application fee.
- Review available Kryterion® Testing Network (KTN) Test Centers and RETA network test centers on our website to locate a center in your area at reta.com/page/certlocations.
- Contact RETA Certification Staff to schedule your exam. Do not call the test center directly. Call 541-497-2955 between the hours of 7:00am-4:00pm PST, or email certification@reta.org
- Download the Study Guide for your exam from the RETA website, <https://reta.com/page/caro> Scroll down to the bottom of the page. The Study Guide will help you to prepare to take the exam. Review the study guide carefully.**
- TAKE YOUR PRACTICE EXAM!**
- Bring the email you received from RETA with the candidate authorization code to the exam center on the day you test. The test center proctor cannot start your exam without the candidate authorization code. Report to the test center 15-20 minutes before your exam start time.
- Bring at least one government-issued form of photo identification such as a driver's license or passport to the test center PLUS a second form of identification (this is a security and validity measure).
- Bring a simple calculator.

References and Training Options to Prepare for RETA's CARO Examinations

Several pathways exist to enable RETA certification candidates to acquire the knowledge and skills required to pass the CARO examinations. While RETA neither endorses nor guarantees that these study materials include all the content areas in the CARO examinations, candidates who cannot or do not wish to use RETA course books can prepare for RETA certification using other materials such as these. Successful completion of a study course or review of materials such as these does not guarantee a passing score on any RETA certification examination.

Alternate References and Training as of September 2021

1. *Electricity for Refrigeration, Heating and Air Conditioning, 10th Ed.* (2018). Gene Smith. Cengage Learning.
2. **Industrial Refrigeration Energy Efficiency Guidebook – 2nd Edition* (2010) Industrial Refrigeration Consortium (IRC), University of Wisconsin-Madison
3. **Industrial Refrigeration Best Practice Guideline – 3rd Edition* (2010) - Cascade Energy Engineering
4. *Industrial Refrigeration Handbook* (1998). Wilbert Stoecker. McGraw-Hill.
5. *Modern Refrigeration and Air Conditioning, 21st Ed.* (2021). Andrew Althouse, Goodheart-Willcox.
6. **Practical Problems in Mathematics for Heating and Cooling Technicians, 6th Edition* (2012). Russell DeVore. Cengage Learning.
7. *Refrigeration Equipment, 2nd Edition* (1998). A.C. Bryant. Elsevier Science & Technology.
8. *Refrigeration Principles, Practice and Performance* (2007). Chris Langley. Goodheart-Willcox.
9. TPC Training Series – Schoolcraft
 - 102* Reading Schematics and Blueprints
 - 109* Industrial Safety and Health
 - 110* Troubleshooting
 - 210* Electrical Troubleshooting
 - 301* Basic Mechanics
 - 461 Ammonia Refrigeration Basics
 - 462 Positive-Displacement Compressors
 - 463 Evaporators, Condensers and Controls
 - 464 Purging, Piping and Safety

* Materials available for purchase from RETA