

NOTICE OF EXAMINATION

Title: Examination for Certificate of Qualification for Refrigeration Operating Engineer (Q-01)

NEW CHANGES!!

(1) For new applicants:

Starting from 10/1/2015, Z-51 test will become a 110-question exam which additionally includes questions based on the Building Operation, Maintenance, and Recordkeeping material (refer to page 4 and 5 of this Notice of Exam).

(2) For renewal:

Starting from **January 1, 2016**, all Certificate of Qualification (Q-01/Q-99) applications for renewal must submit evidence of having completed BOMR course taught by a FDNY approved school or a valid FSD (F58/F25) Certificate of Fitness or a valid Z-50 letter for FSD.

Date of Exam: Written exams are administered Monday through Friday (except legal holidays) at **2:15 PM**: by **appointment only**. Starting processing time for an exam is **2:15 PM**. No exam will be administered to applicants who arrive after the **3:00 P.M.** To schedule an individual or group appointment please use this link below:

<http://www1.nyc.gov/site/fdny/business/all-certifications/cof-online-scheduler.page>

MINIMUM QUALIFICATION REQUIREMENTS

1. Applicants must be at least 18 years of age.
2. Applicants must have a reasonable understanding of the English language.
3. A high school diploma or GED.
4. Applicant must provide two forms of identifications; at least one identification must be government issued photo identification, such as a State-issued Driver's License or Non Driver's License or a passport.
5. **Universal Technician Certification:** The regulations of the U.S. Environmental Protection Agency require an individual performing the duties of a refrigerating system operating engineer to possess Universal Technician Certification ("UTC") (40 CFR Part 82, Subpart F). Therefore, at the time you apply for the exam you must present evidence of UTC.
6. In addition to the above requirements above, you must provide proof that you meet one of the following requirements:
 - A current High Pressure Boiler Operating Engineer License issued by the New York City Department of Buildings; or a current Marine Engineer certificate issued by the United States Coast Guard; or a current Professional Engineer's License issued by one of the fifty states (USA);

OR

 - Refrigeration Operating Engineer training course from one of the FDNY certified schools or organizations, of at least 200 hours duration, at least 25 of which shall have been in the field or shop work;

<http://www1.nyc.gov/assets/fdny/downloads/pdf/business/accreditation-refrigeration-requirements.pdf>

OR

- At least 1 year of practical experience, in the preceding 3 years,
 - (a) working in a building or plant with refrigerating or air conditioning equipment that, at a minimum, has an individual system containing over 50 pounds of refrigerant, or a prime mover or compressor of more than 50 horsepower, or an aggregate of individual systems of more than 15 horsepower each, with a total of more than 100 horsepower; **OR**
 - (b) engaged in the servicing and repair of refrigerating or air conditioning equipment rated at 5 horsepower or over; or containing 20 pounds or more of refrigerant; **OR**
 - (c) A combination practical experience of (a) and (b) above that is satisfactory to the Fire Department

APPLICATION AND PRACTICAL FEE:

Pay the \$60 application and \$225 practical fee in person by one of the following methods:

- Cash
- Credit card (*American Express, Discover, MasterCard, or Visa*)
- Debit card (*MasterCard or Visa*)
- Personal or company check or money order (*made payable to the New York City Fire Department*)

For fee waivers submit: (*Only government employees who will use their C of F for their work-related responsibilities are eligible for fee waivers.*)

- A letter requesting fee waiver on the Agency's official letterhead stating applicant full name, exam type and address of premises; **AND**
- Copy of identification card issued by the agency

A convenience fee of 2.49% will be applied to all credit card payments.

PROCEDURE OF APPLICATION**(1) Qualification review**

The qualifications must be reviewed by the FDNY Certificate of Fitness Unit prior to apply the Certificate of Qualification exam. The applicants must complete the following forms and attached the required documents listed on the forms.

- A-20 Form.
<http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-application-form.pdf>
- Z-51 application form.
<http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-z51-application.pdf>

The completed forms and the required documents are highly recommended to be **submitted in-person** at FDNY Headquarters, 9 MetroTech Center, Brooklyn. Applications can be submitted by mail. However, applications submitted in-person will be processed faster.

Mail your application to:

FDNY, Certificate of Fitness Unit
9 MetroTech Center, 1st Floor
Brooklyn, NY 11201

If all the requirements are met, you will receive a notification for scheduling the first part of the exam (Z-51).

(2) Computer based exam (Z-51)**➤ *Scheduling the computer based exam:***

Computer based examinations are administered Monday through Friday (except legal holidays) at 2:45PM by **appointment only**.

To schedule an individual or group appointment for Z-51 computer based exam, the applicant can log into the link below:

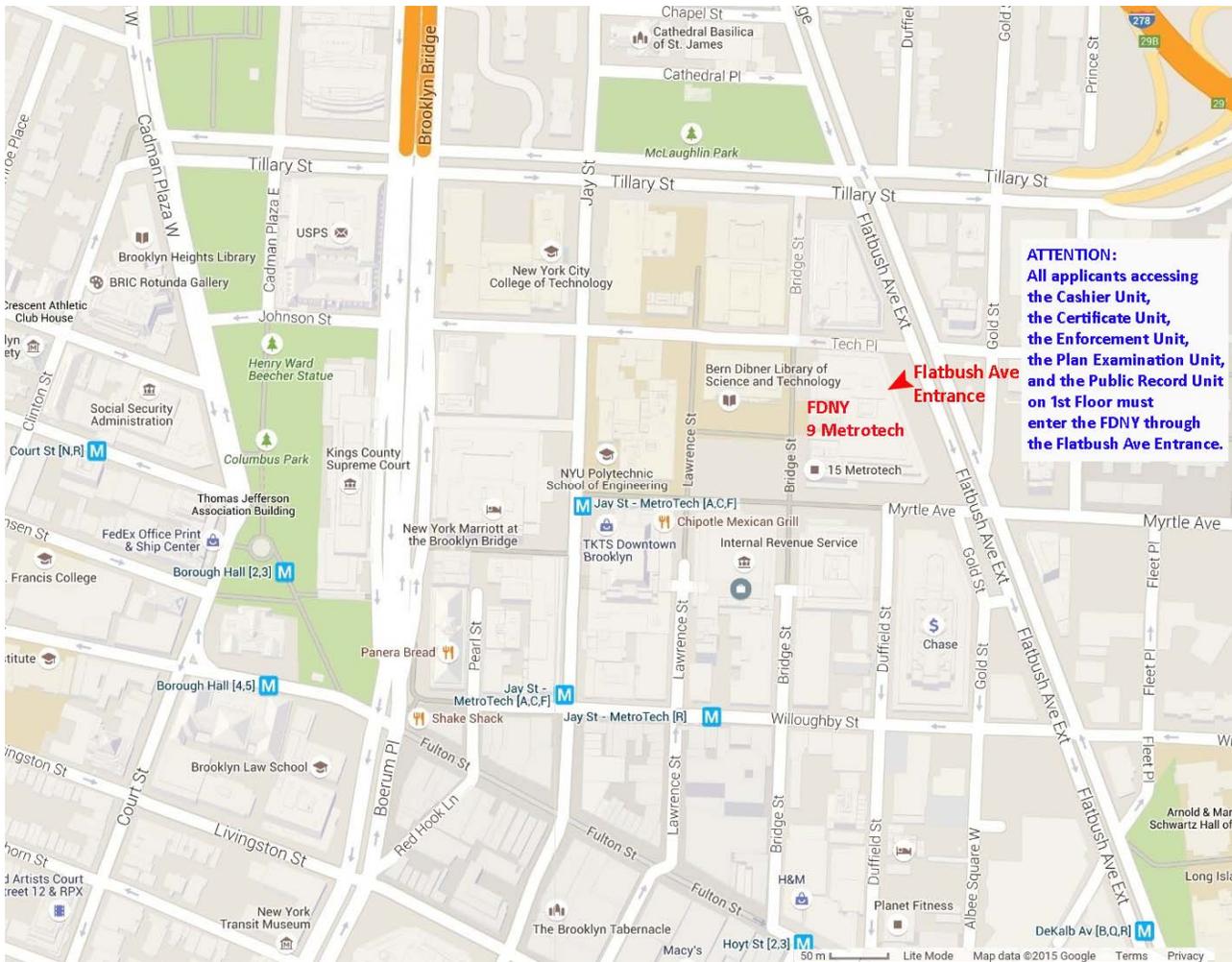
<http://www1.nyc.gov/site/fdny/business/all-certifications/cof-online-scheduler.page>

Please cancel or reschedule your appointment 24 hours in advance if you cannot make it to the testing center to take the exam.

Starting processing time for a test is 2:45 PM. No test will be administered to applicants who arrive after 3:00 P.M.

➤ *Taking the computer based exam:*

TEST SITE: FDNY Headquarters, 9 MetroTech Center, Brooklyn, NY. Enter through the Flatbush Avenue entrance (between Myrtle Avenue and Tech Place).



ATTENTION:
 All applicants accessing the Cashier Unit, the Certificate Unit, the Enforcement Unit, the Plan Examination Unit, and the Public Record Unit on 1st Floor must enter the FDNY through the Flatbush Ave Entrance.

- Applicant must provide two forms of identification; at least one identification must be government issued photo identification, such as a State-issued Drivers’ License or Non Driver’s License or a passport.
- Applicants must bring the \$60 application fee. (see application fee section)
- Applicants must be processed at window 9 of the FDNY Headquarters, photographed and pay testing fees prior to taking exam.

➤ *Computer based exam - General information*

The **Q-01** exam will consist of **100** multiple-choice questions, administered on a “touch screen” computer monitor. Starting from 10/1/2015, the Q-01 exam will consist of 110 multiple-choice questions including additional questions regarding Building Operation, Maintenance and Recordkeeping Training Course Manual (see the bibliography of study materials listed below). It is a time-limit exam. A passing score of at least 70% is required.

Special material provided during the exam: A reference material will be provided during the written exam for a basic unit conversion sheet and a sample of MSDS will be provided during the written exam.

Please always check for the latest revised bibliography of study materials booklet at FDNY website before you take the exam.

<http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-q01-noe-study-materials.pdf>

The exam will appraise the applicant's knowledge of compressors; steam turbines; plant operations; fire safety; heat exchangers; refrigerants; service practices; metering devices; pumps; accessories; electrical components; cooling medium; mathematical computations; piping; the NYC Building Code and Fire Prevention Code as they apply to the refrigerating systems; the safety precautions that should be observed in operating, maintaining, and repairing refrigeration machinery; procedures for recovery, recycling, and reclamation of refrigerants; and related matters.

Applicant is highly recommended to bring a battery-operated calculator that does not have a word processing function.

BIBLIOGRAPHY OF STUDY MATERIALS:

(* is the updated material. Starting from 10/1/2015, the computer-based test will start to include questions from this material.)

1. New York City Fire Code (FC 606) and Fire Rules (Rule §113-07);
2. Building Code and Mechanical Code requirements, including ASHRAE Standard 15-1994, Sections 3, 5.2.1, 6.1, 9.5.1, 9.6.3, 9.11.3;
3. Refrigeration and Air Conditioning Technology, Whitney and Johnson (6th Edition);
4. Stationary Engineering (4th Edition);
5. Perry's Chemical Engineering Handbook (7th Edition);
6. Petroleum Engineering Handbook (1997 Edition);
7. Certification Manual for Type III Systems;
8. Basic Refrigeration: Principles Practice Operation, R.J. King (3rd Edition, 1986);
9. Principles of Refrigeration, C. Thomas Olivo (3rd Edition, 1990).
10. * **Building Operation, Maintenance and Recordkeeping Training Course Manual (available online at: <http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-q01-bomr.pdf> or call 718-999-1988 to request a Study Guide)**

➤ *After the computer based exam:*

1. **Passes** the computer based exam:

The applicant will receive a temporary Z-52 letter stating that the applicant passed the computer based exam.

2. **Fails** the computer based exam:

Applicant who fails the exam will receive a failure report. To retake the exam applicants will need to make online appointment and submit a new application and payment.

Additionally, if you fail the written exam with a grade between 65% and 69%, the fee shall entitle you to a second opportunity to take the written exam. You must avail yourself of this second opportunity no sooner than thirty (30) days, but no more than ninety (90) days after the date of the first written exam, **only** after **surrendering the "Failure Notice"**.

(3) Practical exam (Z-52 Exam)

➤ *Scheduling the computer based exam:*

Practical exams are administered Monday through Friday (except legal holidays) by **appointment only**:

- Applicants must schedule the practical exam in-person.
- Applicants must present the Z-52 letter at the cashiers' counter at FDNY Headquarters to make the payment (\$225.00) for the practical portion of the exam. And then applicants have to bring the Z-52 letter and the payment receipt to the Window 9 of the waiting room at FDNY Headquarters to complete the application process.
- The first appointment for the practical exam is strongly advised to be requested within the first six (6) months of the issuance date of the Z-52 letter.
- Applicants will be permitted to take the practical exam up to (3) times with \$225 payment for each practical exam.

➤ *Practical exam - General information*

TEST SITE: FDNY Headquarters, 9 MetroTech Center, Brooklyn, NY. Enter through the Flatbush Avenue entrance (between Myrtle Avenue and Tech Place).

The practical- computer simulator exam will consist of **50** questions and appraise applicant's knowledge of the practical operation, maintenance, and repair of refrigerating machine equipment including Steam Turbine components. Applicant must attain at least 70% on the practical exam in order to receive a COQ.

The FDNY will be selling a tutorial to prepare applicants how to use and take the Computer Simulator. The Tutorial is available with a price of **\$ 20** per CD ROM. This Tutorial demonstrates typical examples of how the actual Simulator operates although the actual exam is different than the Tutorial. The CD tutorial is available for purchase up at FDNY HQ, only. Any individual can purchase the Tutorial. The FDNY reserves the right to limit the number of CDs based upon availability of inventory.

➤ *The consequence of failing the practical exam*

Applicant who fails the exam will receive a failure report. To retake the exam applicants will need to make another in-person appointment with the Z-52 letter and submit a new payment (\$225).

Applicants will be permitted to take the practical exam up to (3) times with \$225 payment for each practical exam. If the applicants do not pass the examination after the 3rd attempt, the applicants will be required to retake the computer based exam (Z-51). To retake the exam applicants will need to schedule the computer based exam and pay the application fee prior to take the exam.

➤ *Passes the practical exam:*

The applicant will receive a temporary Q-99 letter stating that the applicant passed the practical exam. The applicant needs to present the following documents at 9 Metrotech Center, Brooklyn, to receive the Certificate of Qualification card (Q-01):

1. The temporary Q-99 letter stating the applicant passed
2. A copy of the FDNY permit for the refrigerating system

3. A recommendation letter from the current work location. The recommendation letter must be on business letterhead and signed by an appropriate officer of the employer and provide the following information:

- full name of the applicant;
- premises address, building designation and location of system to be supervised by the certificate holder (for example: 500 East 150th Street, B building, basement, east wing, Room B101);
- name of the manufacturer of the refrigerating system;
- type and number of pounds of refrigerant in the system;
- horsepower rating of the refrigerating system;
- date of installation of the refrigerating system;
- the days and specific hours worked
- whether or not the certificate holder would be providing *personal* or *general supervision* of the equipment in accordance with the Fire Code Requirements (refer to the appendix A of this document)

The sample recommendation letter is provided at the appendix B of this document.

REQUIREMENTS FOR ADDITIONAL WORK LOCATION

Certificate of Qualification holders seeking to register more than one work location must present the following documents from the employer for the additional work location. A Certificate of Qualification shall not be registered for more than one work location for the same day and time if personal supervision is required at more than one such location. \$60 application fee will be charged for the additional Certificate of Qualification card.

***Note: A Certificate of Qualification *must not be registered for more than one work location for the same day and time if personal supervision is required* at more than one such location.**

The applicant must submit the following required documents:

- (1) Current Certificate of Qualification card
- (2) A copy of the FDNY permit for EACH refrigerating system
- (3) A recommendation letter from EACH work location (including the current location). The recommendation letter must be on business letterhead and signed by an appropriate officer of the employer and provide the following information:
 - full name of the applicant;
 - premises address, building designation and location of system to be supervised by the certificate holder (for example: 500 East 150th Street, B building, basement, east wing, Room B101);
 - name of the manufacturer of the refrigerating system;
 - type and number of pounds of refrigerant in the system;
 - horsepower rating of the refrigerating system;
 - date of installation of the refrigerating system;
 - the days and specific hours worked
 - whether or not the certificate holder would be providing *personal* or *general supervision* of the equipment in accordance with the Fire Code Requirements (refer to the appendix A of this document)

The sample recommendation letter is provided at the appendix B of this document.

RENEWAL REQUIREMENTS

This Certificate of Qualification must be renewed every **THREE YEARS**. The renewal fee is **\$15**. FDNY also reserves the right to require the applicants to take a re-examination upon submission of renewal applications.

All current refrigerating system operating engineers (RSOE), Q-01/Q-99 holders, must complete a continuing education course in building operation, maintenance and recordkeeping **from a Fire Department-approved school**. This training course shall, at a minimum, provide not less than seven (7) hours of live instruction.

Certificate of Qualification (Q-01/Q-99) which expires or renews on or after **January 1, 2016**, the applications for renewal must submit evidence of having completed BOMR course taught by a FDNY approved school or a valid FSD (F58/F25) Certificate of Fitness or a copy of an unexpired Z-50 letter for FSD.

The approved schools are listed on the FDNY website (the list will be available by 8/1/2015):
<http://www1.nyc.gov/assets/fdny/downloads/pdf/business/certified-schools-bomr-refrigerating-system-operating-engineers.pdf>

You will receive a courtesy notice of renewal 90 days before the expiration date. However, it is your responsibility to renew your Certificate. It is very important to renew your C of F before it expires. Renewals submitted 90 days (up to one year) after the expiration date will incur a \$25 penalty in addition to the renewal fee. Certificates expired over one year past expiration date will not be renewed. New exams will be required.

To change a mailing address:

- Submit a letter requesting the change of mailing address and a copy of your C of F with \$5.00 fee.

To change a work location,

- Submit a recommendation letter from your current employer (on company letterhead) . The recommendation letter should specify all information required listed on appendix B of this document. You should also submit a copy of your C of F, a copy of the permit issued by Fire Department for refrigeration equipment of the new location and a \$5.00 fee

To request a replacement certificate:

- Submit a driver's license or passport, social security number, mailing address and a \$5.00 fee.

The certificate can be renewed **On-line, by Mail or in Person**.

- **Renewal online**

If you are an individual, make sure you have your 12 digit Certificate of Fitness Access ID. This can be found on your Renewal Notice. If you do not have your Renewal Notice, your Access ID is your 8 digit Certificate of Fitness number and the last four digits of your social security number. If

you are submitting renewals on behalf of a company's employees, the company must be approved by FDNY and have an 8 digit Company Code. To request approval, email pubrenew@fdny.nyc.gov.

Renewal fee can be paid by one of the following methods:

- Credit card (American Express, Discover, MasterCard, or Visa)
- Debit card (MasterCard or Visa)
- E-check

A fee exempted applicants cannot renew online only by mail or in person.

Starting from **January 1, 2016**, all Certificate of Qualification (Q-01/Q-99) applications for renewal online must also provide the evidence of having completed BOMR course taught by a FDNY approved school or a copy of valid FSD (F58/F25) Certificate of Fitness or a copy of an unexpired Z-50 letter for FSD. The applicants can email the required document in electronic version to pubrenew@fdny.nyc.gov.

If all the requirements are met, the certificate of fitness will be mailed out within 10 days.
For online renewal go to: <https://a836-citypay.nyc.gov/citypay/FDNYCOF>

- **Renewal by mail**

Mail your Renewal Notice (if you did not receive a Renewal Notice, a copy of your certificate), along with your fee payment: Personal or company check or money order (made payable to the NYC Fire Department)

For fee waivers submit: *(Only government employees who will use their C of F for their work-related responsibilities are eligible for fee waivers.)*

- A letter requesting fee waiver on the Agency's official letterhead stating applicant full name, exam type and address of premises; **AND**
- Copy of identification card issued by the agency and if applicable, supporting documents to:

NYC Fire Department (FDNY)

Cashier's Unit
9 MetroTech Center, 1st Floor
Brooklyn, NY 11201

Starting from **January 1, 2016**, all Certificate of Qualification (Q-01/Q-99) applications for renewal must also provide the evidence of having completed BOMR course taught by a FDNY approved school or a copy of valid FSD (F58/F25) Certificate of Fitness or a copy of an unexpired Z-50 letter for FSD.

If all the requirements are met, the certificate of fitness will be mailed out within four to six weeks.

- **Renewal in person**

Submit your Renewal Notice (or if you did not receive a Renewal Notice, a copy of your certificate), along with your fee payment by one of the following methods:

- Cash
- Credit card (*American Express, Discover, MasterCard, or Visa*)
- Debit card (*MasterCard or Visa*)

- Personal or company check or money order (*made payable to the New York City Fire Department*)

For fee waivers submit: (***Only government employees who will use their C of F for their work-related responsibilities are eligible for fee waivers.***)

- A letter requesting fee waiver on the Agency's official letterhead stating applicant full name, exam type and address of premises; **AND**
- Copy of identification card issued by the agency
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and if applicable, your supporting documents to:

NYC Fire Department (FDNY)

Cashier's Unit

9 MetroTech Center, 1st Floor

Brooklyn, NY 11201

If all the requirements are met, the certificate of fitness will be issued the same day.

Starting from **January 1, 2016**, all Certificate of Qualification (Q-01/Q-99) applications for renewal must also provide the evidence of having completed BOMR course taught by a FDNY approved school or a copy of valid FSD (F58/F25) Certificate of Fitness or a copy of an unexpired Z-50 letter for FSD.

A convenience fee of 2.49% will be applied to all credit card payments for original or renewal certificates.

Appendix A

SUPERVISION REQUIREMENT FOR DIFFERENT REFRIGERATING SYSTEM

Installation Date	Refrigerant Group Or Name [[See Note 1]]	Occupancy Type [[See Note 2]]	Application	Pounds Of Refrigerant In System	System Horsepower	System Design [[see Note 3]]	Supervision Required
Prior to June 1, 1957	A1	Industrial	Human comfort	More than 50	NA	Not fully automatic	Personal
	A1	Industrial	Human comfort	More than 200	NA	Fully automatic	Personal
	A1	Industrial	Human comfort	More than 50 up to 200	NA	Fully automatic	General
	A1	All except Industrial	All	More than 50	NA	Not fully automatic	Personal
	A1	All except Industrial	All	More than 200	NA	Fully automatic	Personal
	A1	All except Industrial	All	More than 50 up to 200	NA	Fully automatic	General
On or after June 1, 1957	A1	Industrial	Human comfort	NA	More than 50 (or kilowatt equivalency)	NA	Personal
	A1	All except Industrial	All	NA	More than 50 (or kilowatt equivalency)	NA	Personal
Regardless of when installed	A2, A3, B1, B2, B3 and carbon dioxide	All	All	More than 50	NA	Not fully automatic	Personal
	A2, A3, B1, B2, B3 and carbon dioxide	All	All	More than 200	NA	Fully automatic	Personal
	A1	Industrial	All except human comfort	More than 50	NA	Not fully automatic	Personal
	A1	Industrial	All except human comfort	More than 200	NA	Fully automatic	Personal
	A1 and carbon dioxide	Industrial	All except human comfort	More than 50 up to 200	NA	Fully automatic	General
	A1	All	Human comfort	NA	Aggregate exceeds 100[[see Note 4]]	NA	Personal

Note 1. For purposes of this table, refrigerant R-123 shall be treated as a group A1 refrigerant, and carbon dioxide shall not be treated as a group A1 refrigerant.

Note 2. For purposes of this table, "industrial" occupancy refers to occupancy groups F, H and S. For installations constructed under the 1968 Building Code, "industrial" occupancy refers to occupancy groups A, B and D. For installations constructed prior to such 1968 code, "industrial" occupancy refers to that portion of a building used for manufacturing, processing, or storage of materials or products, including, among others, chemical, food, candy, and ice cream factories, ice making plants, meat packing plants, refineries, perishable food warehouses, and similar occupancies.

Note 3. A fully automatic refrigerating system is one whose regulating and safety devices are automatically activated once the system is in operation.

Note 4. This aggregate provision applies only to systems within a single building which are under the sole direct control of a single occupant, lessee or owner. Systems with a rating of 15 horsepower or less or the kilowatt equivalency thereof are excluded from the aggregate.

Appendix B.

FIRM OR COMPANY NAME
BUSINESS ADDRESS

Date: _____

Fire Department
Bureau of Fire Prevention
9 Metro Tech Center
Brooklyn, NY 11201-3857

Dear Sir/Madam:

I am pleased to recommend _____ to apply for a
(Applicant's name)

Certificate of Qualification to perform the duties of a refrigerating system operating engineer.

He/she has _____ of experience and will be working at
(years, months)

(premises address, building designation and location of system to be supervised by the certificate holder. For example: 500 East 150th Street, B building, basement, east wing, Room B101)

The information of the refrigerating system to be supervised by this applicant:

- The name of the manufacturer of the refrigerating system
The type and number of pounds of refrigerant in the system:
The horsepower rating of the refrigerating system:
The date of installation of the refrigerating system:
In accordance with Fire Code FC Table 606.1.1, the refrigerating system requiring
supervision by a Certificate of Qualification holder.
(general or personal)

The applicant will work the following days of the week: _____. The applicant will work from ____ am/pm to ____ am/pm of the days.

Applicant is of GOOD CHARACTER and is PHYSICALLY ABLE to perform the functions required by the holder of the Certificate of Qualification.

(Printed name of Employer) (Employer's title) (Signature of Employer)

NOTE: The recommendation letter should be on employer's letterhead. If not on employer's letterhead, signature must be notarized.

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