#### **COMMERCIAL REFRIGERATION**

CEC-NRCC-PRC-05-E (Revised 01/16)

CALIFORNIA ENERGY COMMIS

| CALIFORNIA ENERGY COMMISSION |  |
|------------------------------|--|

| CERTIFICATE OF COMPLIANCE | NRCC-PRC-05-E  |
|---------------------------|----------------|
| Commercial Refrigeration  | (Page 1 of 5)  |
| Project Name:             | Date Prepared: |

No

No

Yes

#### A. GENERAL INFORMATION

Building Area: Retail Food Store Conditioned Area  $\geq$  8,000 ft<sup>2</sup>

Retail Food Store Conditioned Area < 8,000 ft<sup>2</sup>

(Note: If the Retail Food Store Conditioned Area is  $< 8,000 \text{ ft}^2$  then the Retail Food Store need not comply)

Phase of Construction: New Construction Addition Alteration

# **B. MANDATORY REQUIREMENTS**

Are new condensers replacing existing condensers when:

The attached compressor system total heat of rejection does not increase?

Less than 25% of the attached compressors and the attached refrigerated display cases are new?

If **Yes** to both questions for all systems, the condenser(s) need not comply (exception §120.6(b)). Continue to page 3 or 4.

| CONDENSER MANDATORY MEASURE  | T-24 Sections | Indicate page reference for information on the plans or<br>specification, or list information below |  |  |  |  |
|--|---------------|---|--|--|--|--|
| Condenser ID or Tag (e.g. Cond-1)  |               |   |  |  |  |  |
| Continuously variable speed fans? Fan speed controlled in unison for all fans serving a common condenser high side?  | §120.6(b)1A   |   |  |  |  |  |
| Saturated condensing temperature setpoint reset based on ambient dry bulb temperature for air-cooled condensers and ambient wet bulb temperature for evaporative condensers? | §120.6(b)1B,C |   |  |  |  |  |
| Specify the minimum saturated condensing temperature setpoint. Complies if the minimum saturated condensing temperature setpoint ≤ 70°F.                                     | §120.6(b)1D   |   |  |  |  |  |
| Minimum allowed condenser efficiency. Reference Table 120.6-C.   |               |   |  |  |  |  |
| Installed condenser specific efficiency from Section C.  |               |   |  |  |  |  |
| Is the installed condenser efficiency ≥ the minimum allowed condenser efficiency?  |               |   |  |  |  |  |
| <b>Exception 1 to §120.6(b)1E.</b> Condenser with total heat rejection capacity of < 150,000 Btuh at the specific efficiency conditions.                                     | §120.6(b)1E   |   |  |  |  |  |
| Exception 2to §120.6(b)1E. Condenser operating in Climate Zone 1.  |               |   |  |  |  |  |
| Exception 3 to §120.6(b)1E. Existing condenser reused for an addition or alteration.   | 1             |   |  |  |  |  |
| Air-cooled Condenser Installed? If Yes then Fill Out Next 3 Rows   |               |   |  |  |  |  |
| Fin density (fins per inch). Complies if fin density ≤10.  | 5420.6(1)45   |   |  |  |  |  |
| Exception 1 to §120.6(b)1F. Condenser is a micro-channel condenser.  | §120.6(b)1F   |   |  |  |  |  |
| Exception 2 to §120.6(b)1F. Existing condenser is being reused.  |               |   |  |  |  |  |
| Existing compressor system reused? If Yes, the compressor system need not comply. Yes, No.   |               |   |  |  |  |  |

Existing compressor system reused? If Yes, the compressor system need not comply. Yes No If **Yes**, the condensers need not comply (exception §120.6(b)). Continue to page 4 or 4

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| COMPRESSOR SYSTEM MANDATORY MEASURES   | T-24 Sections | Indico |  | _ | information<br>tinformatio | - | ans or |
|--|---------------|--------|--|---|----------------------------|---|--------|
| Compressor System / Suction Group ID or Tag (e.g. Rack A)  |               |        |  |   |                            |   |        |
| Saturated suction temperature setpoint reset based on the temperature requirements of the attached refrigeration display cases or walk-ins?                    |               |        |  |   |                            |   |        |
| Exception 1 to §120.6(b)2A. Single compressor system with no variable capacity capability.   |               |        |  |   |                            |   |        |
| Exception 2 to §120.6(b)2A. Suction group with design saturated suction temperature (SST) ≥ 30°F.  | §120.6(b)2A   |        |  |   |                            |   |        |
| <b>Exception 2 to §120.6(b)2A.</b> Suction group comprises of the high stage of a two-stage or a cascade system.   |               |        |  |   |                            |   |        |
| Exception 2 to §120.6(b)2A. Suction group serves the secondary cooling fluid (e.g. glycol) chiller.  |               |        |  |   |                            |   |        |
| Design Saturated Suction Temperature (SST) ≤ -10°F and Suction Group Design Cooling Capacity Greater than 100,000 Btu/hr? If Yes then Fill Out the Next 3 Rows |               |        |  |   |                            |   |        |
| Subcooled liquid temperature at the exit of the subcooler. Complies if the temperature is ≤ 50°F.  |               |        |  |   |                            |   |        |
| Specify the saturated suction temperature (SST) of the suction group doing the subcooling. Complies if SST ≥18°F.  | §120.6(b)2B   |        |  |   |                            |   |        |
| Exception 1 to §120.6(b)2B. Suction group is the low temperature suction group of a cascade system.  |               |        |  |   |                            |   |        |

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CERTIFICATE OF COMPLIANCE

Commercial Refrigeration

Project Name:

NRCC-PRC-05-E

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Date Prepared:

|         | REFRIGERATED DISPLAY CASES MANDATORY MEASURES   | T-24 Sections | Indicate page reference for information on the plans or specification, or list information below    |  |  |
|---------|---|---------------|---|--|--|
| Refrig  | erated Display Cases  |               |   |  |  |
| Lights  | in the refrigerated display cases and lights installed on walk-in glass doors automatically turned          |               |   |  |  |
|         | ring non-business hours, or reduced by 50% of lighting power within 30 minutes after the y area is vacated? | §120.6(b)3    | Yes No  |  |  |
| Exc     | eption 1 to §120.6(b)3. Retail Food Store is open for business for 140 hours or more per week.              |               |   |  |  |
|         | HEAT RECOVERY MANDATORY MEASURES  | T-24 Sections | Indicate page reference for information on the plans or<br>specification, or list information below |  |  |
| Heat F  | Recovery System ID or Tag (e.g. HR-1)   |               |   |  |  |
| Heat r  | ecovery of at least 25% of the sum of the total heat rejection of the refrigeration systems with >          | §120.6(b)4A   |   |  |  |
| 150,00  | 00 Btuh individual total heat rejection at design conditions?   |               |   |  |  |
| Identi  | fy the page in plans showing the heat recovery calculations or attach the calculations to this              |               |   |  |  |
| form.   |   |               |   |  |  |
| Exc     | eption 1 to §120.6(b)4A. Retail Food Store located in Climate Zone 15.                                      |               |   |  |  |
| Exc     | eption 2 to §120.6(b)4A. Reused refrigeration and HVAC systems for an addition or alteration.               |               |   |  |  |
| Identi  | fy the page number in plans showing the charge increase calculations or attach the calculations             |               |   |  |  |
| to this | compliance document.  |               |   |  |  |
| 01      | Specify the increase in refrigerant charge associated with heat recovery equipment and piping in lbs        | §120.6(b)4B   |   |  |  |
| 02      | Specify the total amount of heat recovery heating capacity in MBH [MBH = 1,000 Btuh]                        |               |   |  |  |
| 03      | B01/B02. Complies if B03 < 0.35 lbs/MBH.  |               |   |  |  |

# COMMERCIAL REFRIGERATION CEC-NRCC-PRC-05-E (Revised 01/16)

| IFORNIA ENERGY COMMISSION |  |
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| CEC-INCOC-I NO-00-E (Nevised 01/10) | CALIFORNIA ENERGY COMMISSION |
|-------------------------------------|------------------------------|
| CERTIFICATE OF COMPLIANCE           | NRCC-PRC-05-E                |
| Commercial Refrigeration            | (Page 4 of 5)                |
| Project Name:                       | Date Prepared:               |

|        | Fans                    |                         |   |                         | Pumps               |                     |  | Condenser                |                   |  |  |
|--------|-------------------------|-------------------------|---|-------------------------|---------------------|---------------------|--|--------------------------|-------------------|--|--|
|        | 01                      | 02                      | 03  | 04                      | 05                  | 06                  | 07   | 08                       | 09                | 10                                     | 11   |
| Tag/ID | Motor Power<br>(HP)     | Motor<br>Efficiency     | Motor Input<br>Power (kW)<br>0.746 * C01 /<br>C02 | Total Fan<br>Power (kW) | Motor Power<br>(HP) | Motor<br>Efficiency | Motor Input<br>Power (kW)<br>0.746 * C05/<br>C06 | Total Pump<br>Power (kW) | Capacity<br>(MBH) | Total Input<br>Power (kW)<br>C04 + C08 | Specific<br>Efficiency<br>(Btuh/Watt)<br>C09 / C10 |
|        | Fan 1<br>Fan 2<br>Fan 3 | Fan 1<br>Fan 2<br>Fan 3 | Fan 1<br>Fan 2<br>Fan 3                           |                         | Pump 1<br>Pump 2    | Pump 1<br>Pump 2    | Pump 1<br>Pump 2                                 |                          |                   |  |  |
|        | Fan 1<br>Fan 2<br>Fan 3 | Fan 1<br>Fan 2<br>Fan 3 | Fan 1<br>Fan 2<br>Fan 3                           |                         | Pump 1<br>Pump 2    | Pump 1<br>Pump 2    | Pump 1<br>Pump 2                                 |                          |                   |  |  |

#### AIR-COOLED CONDENSER

|        |                | Fa               | Cond             | enser   |                 |  |
|--------|----------------|------------------|------------------|---|-----------------|--|
|        | 01             | 02               | 03               | 04  | 05              | 06   |
| Tag/ID | Number of Fans | Motor Power (HP) | Motor Efficiency | Total Input Power (Watts)<br>0.746 * C01* C02 / C03 | Capacity (Btuh) | Specific Efficiency<br>(Btuh/Watt)<br>C05/ C04 |
|        |                |                  |                  |   |                 |  |
|        |                |                  |                  |   |                 |  |
|        |                |                  |                  |   |                 |  |
|        |                |                  |                  |   |                 |  |
|        |                |                  |                  |   |                 |  |
|        |                |                  |                  |   |                 |  |
|        |                |                  |                  |   |                 |  |
|        |                |                  |                  |   |                 |  |

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| CERTIFICATE OF COMPLIANCE         | NRCC-PRC-05-E                |
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| DOCUMENTATION AUTHOR'S DECLARATION STATEMENT   |   |  |  |
|--|---|--|--|
| 1. I certify that this Certificate of Compliance documentation is accurate and complete.   |   |  |  |
| Documentation Author Name:   | Documentation Author Signature:   |  |  |
| Company:   | Signature Date:   |  |  |
| Address:   | CEA/ HERS Certification Identification (if applicable):   |  |  |
| City/State/Zip:  | Phone:  |  |  |
| RESPONSIBLE PERSON'S DECLARATION STATEMENT   |   |  |  |
| <ul> <li>designer).</li> <li>The energy features and performance specifications, materials, components, and manufact conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulati</li> <li>The building design features or system design features identified on this Certificate of Components, calculations, plans and specifications submitted to the enforcement agency for</li> <li>I will ensure that a completed signed copy of this Certificate of Compliance shall be made as agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance shall be made as agency for all applicable inspections.</li> </ul> | oliance are consistent with the information provided on other applicable compliance documents, approval with this building permit application.  Vailable with the building permit(s) issued for the building, and made available to the enforcement ificate of Compliance is required to be included with the documentation the builder provides to the |  |  |
| Responsible Designer Name:   | Responsible Designer Signature:   |  |  |
| Company:   | Date Signed:  |  |  |
| Address:   | License:  |  |  |
| City/State/Zip:  | Phone:  |  |  |