

BUILDING ENERGY ANALYSIS REPORT

PROJECT:

MES - Mechanical Replacement
1001 Cambridge Pl.
Tracy, CA 95377

Project Designer:

,

Report Prepared by:

Andrew Gossman

14451 Chambers Rd., Ste. 210
Tustin, CA 92780
949-417-3903

Job Number:

Date:

3/22/2019

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2016 Building Energy Efficiency Standards.

This program developed by EnergySoft Software – www.energysoft.com.

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CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 1 of 4)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019

A. MECHANICAL COMPLIANCE DOCUMENTS & WORKSHEETS (check box if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2016 Nonresidential Manual

Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Comp. Doc./Worksheet #	Title
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all submittals.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02-A to 11-A). Required on plans for all submittals.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12-A to 18-A). Required on plans where applicable.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-02-E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-02-E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where applicable

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 2 of 4)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019

B. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents)

Test Performed By:

Designer:
 This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:
 The contractor who installed the equipment is responsible to either conduct the acceptance test themselves or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:
 Plancheck – The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked.
 Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-02-A	MCH-03-A	MCH-04-A	MCH-05-A	MCH-06-A	MCH-07-A	MCH-08-A	MCH-09-A	MCH-10-A	MCH-11-A
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
York ZE048H07	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 3 of 4)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019

C. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents)

Test Performed By:

Designer:
 This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:
 The contractor who installed the equipment is responsible to either conduct the acceptance test themselves or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:
 Plancheck – The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked.
 Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-12-A	MCH-13-A	MCH-14-A	MCH-15-A	MCH-16-A	MCH-17-A	MCH-18-A
Equipment Requiring Testing or Verification	# of Units	Fault Detection & Diagnostics for DX Units	Automatic Fault Detection & Diagnostics for Air & Zone	Distributed Energy Storage DX AC Systems	Thermal Energy Storage (TES) Systems	Supply Air Temperature Reset Controls	Condenser Water Reset Controls	ECMS
York ZE048H07	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	(Page 4 of 4)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Andrew Gossman	Documentation Author Signature: <i>Andrew Gossman</i>
Company: Pocock Design Solutions, Inc.	Signature Date: 3/22/2019
Address: 14451 Chambers Rd., Ste. 210	CEA/ HERS Certification Identification (if applicable): M35839
City/State/Zip: Tustin, CA 92780	Phone: 949-417-3903

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Andrew Gossman	Responsible Designer Signature: <i>Andrew Gossman</i>
Company: Pocock Design Solutions, Inc.	Date Signed: 3/22/2019
Address: 14451 Chambers Rd. Ste 210	License: M35839
City/State/Zip: Tustin, CA 92780	Phone: 949-417-3903

REQUIRED ACCEPTANCE TESTS

CEC-NRCC-MCH-04-E (Revised 01/16)



CERTIFICATE OF COMPLIANCE		NRCC-MCH-04-E
Required Acceptance Tests		(Page 1 of 3)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019	

A. MECHANICAL COMPLIANCE FORMS & WORKSHEETS

(indicate if worksheet is included)

For detailed instructions on the use of this and all Energy Standards compliance documents, refer to the 2016 Nonresidential Manual

Note: The Enforcement Agency may require all compliance documents to be incorporated onto the building plans. The NRCC-MCH-04-E and NRCC-MECH-05-E are alternative compliance documents to NRCC-MCH-01-E, NRCC-MCH-02-E and NRCC-MCH-03-E for projects using only single zone packaged HVAC systems.

YES	NO	Form	Title
✓		NRCC-MCH-04-E (1 of 2)	Certificate of Compliance. Required on plans when used.
✓		NRCC-MCH-04-E (2 of 2)	Mechanical Acceptance Tests. Required on plans when used.
✓		NRCC-MCH-05-E (1 of 2)	HVAC Prescriptive Requirements. It is required on plans when used.
✓		NRCC-MCH-05-E (2 of 2)	Mechanical SWH Equipment Summary is required for all submittals with service water heating, pools or spas. It is required on plans where applicable.

REQUIRED ACCEPTANCE TESTS

CEC-NRCC-MCH-04-E (Revised 01/16)



CERTIFICATE OF COMPLIANCE	NRCC-MCH-04-E
Required Acceptance Tests	(Page 2 of 3)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019

Designer:

This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for mechanical systems. The designer is required to check the applicable boxes by all acceptance tests that apply and list all equipment that require an acceptance test. If all equipment of a certain type requires a test, list the equipment description and the number of systems. The NA number designates the Section in the Appendix of the Nonresidential Reference Appendices Manual that describes the test. Since this compliance document will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately.

Enforcement Agency:

Systems Acceptance. Before occupancy permit is granted for a newly constructed building or space, or a new space-conditioning system serving a building or space is operated for normal use, all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.

Systems Acceptance. Before occupancy permit is granted. All newly installed HVAC equipment must be tested using the Acceptance Requirements. The NRCC-MCH-04-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked. The equipment requiring testing, person performing the test (Example: HVAC installer, TAB contractor, controls contractor, PE in charge of project) and what Acceptance test must be conducted. The following checked-off forms are required for ALL newly installed and replaced equipment. In addition a Certificate of Acceptance documents shall be submitted to the building department that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of Section 10-103(b) and Title 24 Part 6. The building inspector must receive the properly filled out and signed compliance documents before the building can receive final occupancy.

Test Description		MCH-02-A	MCH-03-A	MCH-04-A	MCH-05-A	MCH-06-A	MCH-07-A	MCH-11-A	MCH-12-A	MCH-14-A	MCH-18-A	Test Performed By:
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Automatic Demand Shed Control	FDD for Packaged DX Units	Distributed Energy Storage DX AC Systems	Energy Management Control System	
York ZE048	10	✓	✓									

REQUIRED ACCEPTANCE TESTS

CEC-NRCC-MCH-04-E (Revised 01/16)



CERTIFICATE OF COMPLIANCE		NRCC-MCH-04-E
Required Acceptance Tests		(Page 3 of 3)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019	

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Andrew Gossman	Documentation Author Signature: <i>Andrew Gossman</i>
Company: Pocock Design Solutions, Inc.	Signature Date: 3/22/2019
Address: 14451 Chambers Rd., Ste. 210	CEA/ HERS Certification Identification (if applicable): M35839
City/State/Zip: Tustin, CA 92780	Phone: 949-417-3903
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
I certify the following under penalty of perjury, under the laws of the State of California:	
<ol style="list-style-type: none"> The information provided on this Certificate of Compliance is true and correct. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer). The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. 	
Responsible Designer Name: Andrew Gossman	Responsible Designer Signature: <i>Andrew Gossman</i>
Company: Pocock Design Solutions, Inc.	Date Signed: 3/22/2019
Address: 14451 Chambers Rd. Ste 210	License: M35839
City/State/Zip: Tustin, CA 92780	Phone: 949-417-3903

REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

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

CALIFORNIA ENERGY COMMISSION



CERTIFICATE OF COMPLIANCE		NRCC-MCH-05-E
Requirements for Packaged Single-Zone Units		(Page 1 of 2)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019	

Equipment Tag(s) ¹	AC-1A		AC-2A		AC-3A		
	T-24 Sections	Requirement ³	As Scheduled ³	Requirement ³	As Scheduled ³	Requirement ³	As Scheduled ³
MANDATORY MEASURES							
Heating Equipment Efficiency ⁴	110.1 or 110.2(a)	81% AFUE	80% AFUE	81% AFUE	80% AFUE	81% AFUE	80% AFUE
Cooling Equipment Efficiency ⁴	110.1 or 110.2(a)	13 SEER	14.0 SEER / 12.2	13 SEER	14.0 SEER / 12.2	13 SEER	14.0 SEER / 12.2
Thermostats ⁵	110.2(b), 110.2(c)	Setback	Setback	Setback	Setback	Setback	Setback
Furnace Standby Loss Control ⁶	110.2(d)	n/a		n/a		n/a	
Low Leakage AHU	110.2(f)	NR	none	NR	none	NR	none
Ventilation ⁷	120.1(b)	338	338	338	338	338	338
Demand Control Ventilation ⁸	120.1(c)4	NR	No	NR	No	NR	No
Occupant Sensor Ventilation Control ⁸	120.1(c)5, 120.2(e)3						
Shutoff and Reset Controls ⁹	120.2(e)	Req	Programmable	Req	Programmable	Req	Programmable S
Outdoor Air and Exhaust Damper Control	120.2(f)	Req	Auto	Req	Auto	Req	Auto
Automatic Demand Shed Controls	120.2(h)	NR	none	NR	none	NR	none
Economizer FDD	120.2(i)	NR	No	NR	No	NR	No
Duct Insulation	120.4	R-8	R-8.0	R-8	R-8.0	R-8	R-8.0
PRESCRIPTIVE MEASURES							
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr
Economizer	140.4(e)	NR	No Economizer	NR	No Economizer	NR	No Economizer
Electric Resistance Heating ¹⁰	140.4(g)	No	No	No	No	No	No
Duct Leakage Sealing and Testing. ¹¹	140.4(l)	NR	No	NR	No	NR	No

Notes:

- Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
- Enter the following information as appropriate: Unit Manufacturer; Unit Model Number (including all accessories); Description of the unit (e.g. gas-pack or heat pump; rated heating capacity (enter "N/A" if no heating); and, rated cooling capacity (enter "N/A" if no cooling). For unit capacities include the units (e.g. kBtu/h or tons).
- For each requirement, enter the minimum requirement from the Standard in the left column (under "Standard Requirement"). In the right column (under "As Scheduled") enter the value for the units as specified.
- Where there is more than one requirement (e.g. full and part load efficiency) enter both with the appropriate labels (e.g. COP and IEER).
- In the left column identify the thermostatic requirements from the standard (e.g. programmable setback thermostat or heat pump with electric heat), . In the right column indicate the capabilities of the thermostat as scheduled.
- If the unit has a furnace which is rated at $\geq 225,000$ Btu/h of capacity, indicate the rated standby loss and ignition source (e.g. IID). If there is no furnace or the unit is rated for $< 225,000$ Btu/h indicate "N/A".
- In the left column, enter both the required ventilation value from Table 120.1A and for the number of occupants times 15 cfm/person. In the right column enter the actual minimum ventilation as scheduled. If the space is naturally ventilated enter "N/A" in the left column and "the space is naturally ventilated" in the right column.
- If the space is required to have either DCV or Occupant Sensor Ventilation Control indicate "required" in the left column (otherwise indicate "N/A" in the left column). If either DCV or Occupant Sensor Ventilation Control is provided indicate "provided" in the right column (otherwise indicate "N/A" in the right column)
- In the left column indicate the required time controls from the standard. In the right column identify the device that provides this functionality (e.g. EMCS or programmable timeclock).
- Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
- If duct leakage sealing and testing is required, a **MCH-04-A** compliance document must be submitted.

REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

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

CALIFORNIA ENERGY COMMISSION



CERTIFICATE OF COMPLIANCE		NRCC-MCH-05-E
Requirements for Packaged Single-Zone Units		(Page 1 of 2)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019	

Equipment Tag(s) ¹	AC-4A		AC-1B		AC-2B		
	T-24 Sections	Requirement ³	As Scheduled ³	Requirement ³	As Scheduled ³	Requirement ³	As Scheduled ³
MANDATORY MEASURES							
Heating Equipment Efficiency ⁴	110.1 or 110.2(a)	81% AFUE	80% AFUE	81% AFUE	80% AFUE	81% AFUE	80% AFUE
Cooling Equipment Efficiency ⁴	110.1 or 110.2(a)	13 SEER	14.0 SEER / 12.2	13 SEER	14.0 SEER / 12.2	13 SEER	14.0 SEER / 12.2
Thermostats ⁵	110.2(b), 110.2(c)	Setback	Setback	Setback	Setback	Setback	Setback
Furnace Standby Loss Control ⁶	110.2(d)	n/a		n/a		n/a	
Low Leakage AHU	110.2(f)	NR	none	NR	none	NR	none
Ventilation ⁷	120.1(b)	338	338	338	338	338	338
Demand Control Ventilation ⁸	120.1(c)4	NR	No	NR	No	NR	No
Occupant Sensor Ventilation Control ⁸	120.1(c)5, 120.2(e)3						
Shutoff and Reset Controls ⁹	120.2(e)	Req	Programmable	Req	Programmable	Req	Programmable S
Outdoor Air and Exhaust Damper Control	120.2(f)	Req	Auto	Req	Auto	Req	Auto
Automatic Demand Shed Controls	120.2(h)	NR	none	NR	none	NR	none
Economizer FDD	120.2(i)	NR	No	NR	No	NR	No
Duct Insulation	120.4	R-8	R-8.0	R-8	R-8.0	R-8	R-8.0
PRESCRIPTIVE MEASURES							
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr
Economizer	140.4(e)	NR	No Economizer	NR	No Economizer	NR	No Economizer
Electric Resistance Heating ¹⁰	140.4(g)	No	No	No	No	No	No
Duct Leakage Sealing and Testing. ¹¹	140.4(l)	NR	No	NR	No	NR	No

Notes:

- Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
- Enter the following information as appropriate: Unit Manufacturer; Unit Model Number (including all accessories); Description of the unit (e.g. gas-pack or heat pump; rated heating capacity (enter "N/A" if no heating); and, rated cooling capacity (enter "N/A" if no cooling). For unit capacities include the units (e.g. kBtu/h or tons).
- For each requirement, enter the minimum requirement from the Standard in the left column (under "Standard Requirement"). In the right column (under "As Scheduled") enter the value for the units as specified.
- Where there is more than one requirement (e.g. full and part load efficiency) enter both with the appropriate labels (e.g. COP and IEER).
- In the left column identify the thermostatic requirements from the standard (e.g. programmable setback thermostat or heat pump with electric heat), . In the right column indicate the capabilities of the thermostat as scheduled.
- If the unit has a furnace which is rated at $\geq 225,000$ Btu/h of capacity, indicate the rated standby loss and ignition source (e.g. IID). If there is no furnace or the unit is rated for $< 225,000$ Btu/h indicate "N/A".
- In the left column, enter both the required ventilation value from Table 120.1A and for the number of occupants times 15 cfm/person. In the right column enter the actual minimum ventilation as scheduled. If the space is naturally ventilated enter "N/A" in the left column and "the space is naturally ventilated" in the right column.
- If the space is required to have either DCV or Occupant Sensor Ventilation Control indicate "required" in the left column (otherwise indicate "N/A" in the left column). If either DCV or Occupant Sensor Ventilation Control is provided indicate "provided" in the right column (otherwise indicate "N/A" in the right column)
- In the left column indicate the required time controls from the standard. In the right column identify the device that provides this functionality (e.g. EMCS or programmable timeclock).
- Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
- If duct leakage sealing and testing is required, a **MCH-04-A** compliance document must be submitted.

REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

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

CALIFORNIA ENERGY COMMISSION



CERTIFICATE OF COMPLIANCE		NRCC-MCH-05-E
Requirements for Packaged Single-Zone Units		(Page 1 of 2)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019	

Equipment Tag(s) ¹	AC-1C		AC-1D		AC-1F		
	T-24 Sections	Requirement ³	As Scheduled ³	Requirement ³	As Scheduled ³	Requirement ³	As Scheduled ³
MANDATORY MEASURES							
Heating Equipment Efficiency ⁴	110.1 or 110.2(a)	81% AFUE	80% AFUE	81% AFUE	80% AFUE	81% AFUE	80% AFUE
Cooling Equipment Efficiency ⁴	110.1 or 110.2(a)	13 SEER	14.0 SEER / 12.2	13 SEER	14.0 SEER / 12.2	13 SEER	14.0 SEER / 12.2
Thermostats ⁵	110.2(b), 110.2(c)	Setback	Setback	Setback	Setback	Setback	Setback
Furnace Standby Loss Control ⁶	110.2(d)	n/a		n/a		n/a	
Low Leakage AHU	110.2(f)	NR	none	NR	none	NR	none
Ventilation ⁷	120.1(b)	338	338	338	338	338	338
Demand Control Ventilation ⁸	120.1(c)4	NR	No	NR	No	NR	No
Occupant Sensor Ventilation Control ⁸	120.1(c)5, 120.2(e)3						
Shutoff and Reset Controls ⁹	120.2(e)	Req	Programmable	Req	Programmable	Req	Programmable S
Outdoor Air and Exhaust Damper Control	120.2(f)	Req	Auto	Req	Auto	Req	Auto
Automatic Demand Shed Controls	120.2(h)	NR	none	NR	none	NR	none
Economizer FDD	120.2(i)	NR	No	NR	No	NR	No
Duct Insulation	120.4	R-8	R-8.0	R-8	R-8.0	R-8	R-8.0
PRESCRIPTIVE MEASURES							
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr
Economizer	140.4(e)	NR	No Economizer	NR	No Economizer	NR	No Economizer
Electric Resistance Heating ¹⁰	140.4(g)	No	No	No	No	No	No
Duct Leakage Sealing and Testing. ¹¹	140.4(l)	NR	No	NR	No	NR	No

Notes:

- Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
- Enter the following information as appropriate: Unit Manufacturer; Unit Model Number (including all accessories); Description of the unit (e.g. gas-pack or heat pump; rated heating capacity (enter "N/A" if no heating); and, rated cooling capacity (enter "N/A" if no cooling). For unit capacities include the units (e.g. kBtu/h or tons).
- For each requirement, enter the minimum requirement from the Standard in the left column (under "Standard Requirement"). In the right column (under "As Scheduled") enter the value for the units as specified.
- Where there is more than one requirement (e.g. full and part load efficiency) enter both with the appropriate labels (e.g. COP and IEER).
- In the left column identify the thermostatic requirements from the standard (e.g. programmable setback thermostat or heat pump with electric heat). In the right column indicate the capabilities of the thermostat as scheduled.
- If the unit has a furnace which is rated at $\geq 225,000$ Btu/h of capacity, indicate the rated standby loss and ignition source (e.g. IID). If there is no furnace or the unit is rated for $< 225,000$ Btu/h indicate "N/A".
- In the left column, enter both the required ventilation value from Table 120.1A and for the number of occupants times 15 cfm/person. In the right column enter the actual minimum ventilation as scheduled. If the space is naturally ventilated enter "N/A" in the left column and "the space is naturally ventilated" in the right column.
- If the space is required to have either DCV or Occupant Sensor Ventilation Control indicate "required" in the left column (otherwise indicate "N/A" in the left column). If either DCV or Occupant Sensor Ventilation Control is provided indicate "provided" in the right column (otherwise indicate "N/A" in the right column).
- In the left column indicate the required time controls from the standard. In the right column identify the device that provides this functionality (e.g. EMCS or programmable timeclock).
- Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
- If duct leakage sealing and testing is required, a **MCH-04-A** compliance document must be submitted.

REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

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

CALIFORNIA ENERGY COMMISSION



CERTIFICATE OF COMPLIANCE		NRCC-MCH-05-E
Requirements for Packaged Single-Zone Units		(Page 1 of 2)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019	

Equipment Tag(s) ¹	AC-2F						
	T-24 Sections	Requirement ³	As Scheduled ³	Requirement ³	As Scheduled ³	Requirement ³	As Scheduled ³
MANDATORY MEASURES							
Heating Equipment Efficiency ⁴	110.1 or 110.2(a)	81% AFUE	80% AFUE				
Cooling Equipment Efficiency ⁴	110.1 or 110.2(a)	13 SEER	14.0 SEER / 12				
Thermostats ⁵	110.2(b), 110.2(c)	Setback	Setback				
Furnace Standby Loss Control ⁶	110.2(d)	n/a					
Low Leakage AHU	110.2(f)	NR	none				
Ventilation ⁷	120.1(b)	338	338				
Demand Control Ventilation ⁸	120.1(c)4	NR	No				
Occupant Sensor Ventilation Control ⁸	120.1(c)5, 120.2(e)3						
Shutoff and Reset Controls ⁹	120.2(e)	Req	Programmable				
Outdoor Air and Exhaust Damper Control	120.2(f)	Req	Auto				
Automatic Demand Shed Controls	120.2(h)	NR	none				
Economizer FDD	120.2(i)	NR	No				
Duct Insulation	120.4	R-8	R-8.0				
PRESCRIPTIVE MEASURES							
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	19,038 Btu/hr 38,102 Btu/hr	60,000 Btu/hr 44,513 Btu/hr				
Economizer	140.4(e)	NR	No Economize				
Electric Resistance Heating ¹⁰	140.4(g)	No	No				
Duct Leakage Sealing and Testing. ¹¹	140.4(l)	NR	No				

Notes:

- Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
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REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

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



CERTIFICATE OF COMPLIANCE		NRCC-MCH-05-E
Requirements for Packaged Single-Zone Units		(Page 2 of 2)
Project Name: MES - Mechanical Replacement	Date Prepared: 3/22/2019	

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Andrew Gossman	Documentation Author Signature: <i>Andrew Gossman</i>
Company: Pocock Design Solutions, Inc.	Signature Date: 3/22/2019
Address: 14451 Chambers Rd., Ste. 210	CEA/HERS Certification Identification (if applicable): M35839
City/State/Zip: Tustin, CA 92780	Phone: 949-417-3903

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
- I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Andrew Gossman	Responsible Designer Signature: <i>Andrew Gossman</i>
Company: Pocock Design Solutions, Inc.	Date Signed: 3/22/2019
Address: 14451 Chambers Rd. Ste 210	License: M35839
City/State/Zip: Tustin, CA 92780	Phone: 949-417-3903