

Decoding CBECC-Com

Let's Talk about the New NRCC-PRF Form

Host:

Gina Rodda
Gabel Associates, LLC

Guest Speaker:

Sally Blair
NORESKO



This program is funded by California utility customers under the auspices of the California Public Utilities Commission and in support of the California Energy Commission.



Welcome

► Welcome

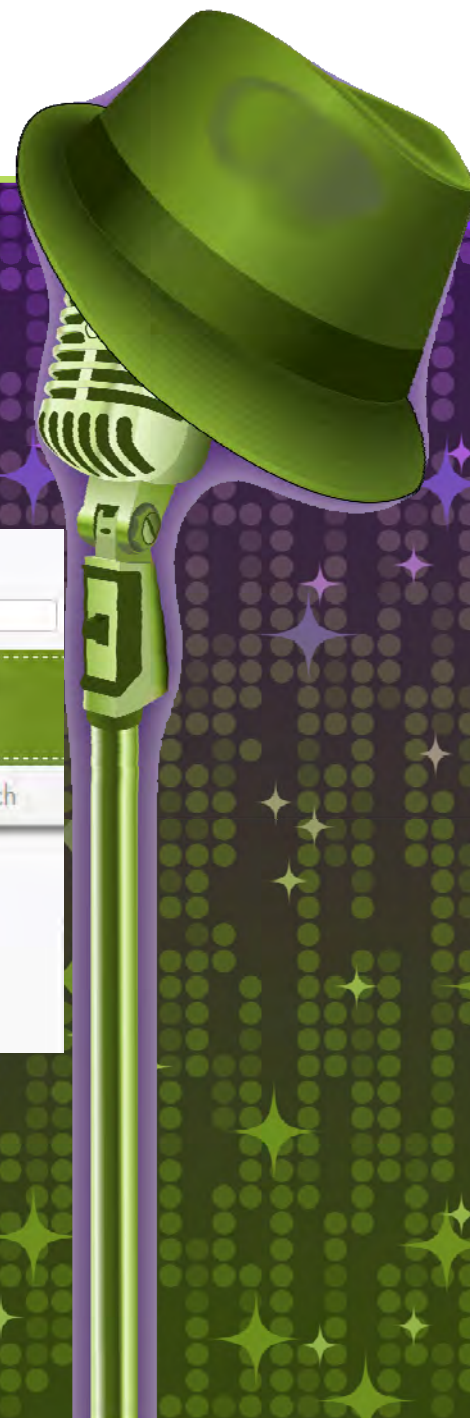
- Who are we?
 - Our goal today
 - More about you
-
- What We Heard From you
 - Let's Talk
 - Next Steps
 - Wrap Up





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Who Are We?



Host

Gina Rodda, Gabel Associates, LLC

gina@gabelenergy.com

Gina Rodda, our host for the Decoding Talk series, is a Certified Energy Analyst (CEA), Certified Energy Plans Examiner (CEPE) and LEED Accredited Professional (AP).

She is involved in providing residential and non-residential energy calculations for a variety of building types throughout California; an instructor of full day trainings; and host of various webinars specific to Title 24 (Part 6) Building Energy Efficiency Standards.

Gina has been in the energy modeling field since 1991, through the course of seven California building energy code cycles.



GABEL ASSOCIATES, LLC

BUILDING ENERGY ANALYSIS & ENERGY CODE COMPLIANCE



Who Are We?



Guest Speaker

Sally Blair, NORESKO

sblair@noresko.com

Sally works for NORESKO, where she has gained more than a decade of experience in energy and sustainability consulting.

She is a core team member leading initiatives for California's investor-owned utilities (IOUs) for identifying gaps and implementing recommendations to improve compliance and enforcement of the Title 24, Part 6 energy code.

Ms. Blair has been instrumental in collaborating with building department staff, market actors in the compliance supply chain, the CEC and the IOU Statewide Codes and Standards Program to create and implement an action plan for code compliance. She is currently supporting SCE, SDG&E, SoCal Gas and PG&E on code compliance improvement projects under the auspices of the CPUC and in support of CEC.





Our Goal Today



Review the “new” nonresidential performance “Certificate of Compliance” report NRCC-PRF form showing compliance under the 2013 energy standards:

- ✦ Where to look for what
- ✦ How the format of the form can help *you*
- ✦ Where to get help when troubleshooting



We Want To Hear From You

- Welcome

- ▶ **We Want To Hear from You**

- Most common challenges

- Let's Talk

- Next Steps

- Wrap Up





Our Question To You

What are your top 3 concerns regarding the new NRCC-PRF form for nonresidential performance compliance?

1. too long
2. no enforcement
3. no training prior to today

Verifying that the PRF that is hardcopy was generated by CBECC-com (or other approved).

My understanding is that the PERF pages go on the plans. What pages go on the plans?

Understanding when to require which forms, TI vs. new construction.

Understanding what other forms are required(missing) lighting, mechanical, etc.



Code: CEC Documents



<http://energycodeace.com/content/reference-ace-2013-tool>



What's Under The Hood?

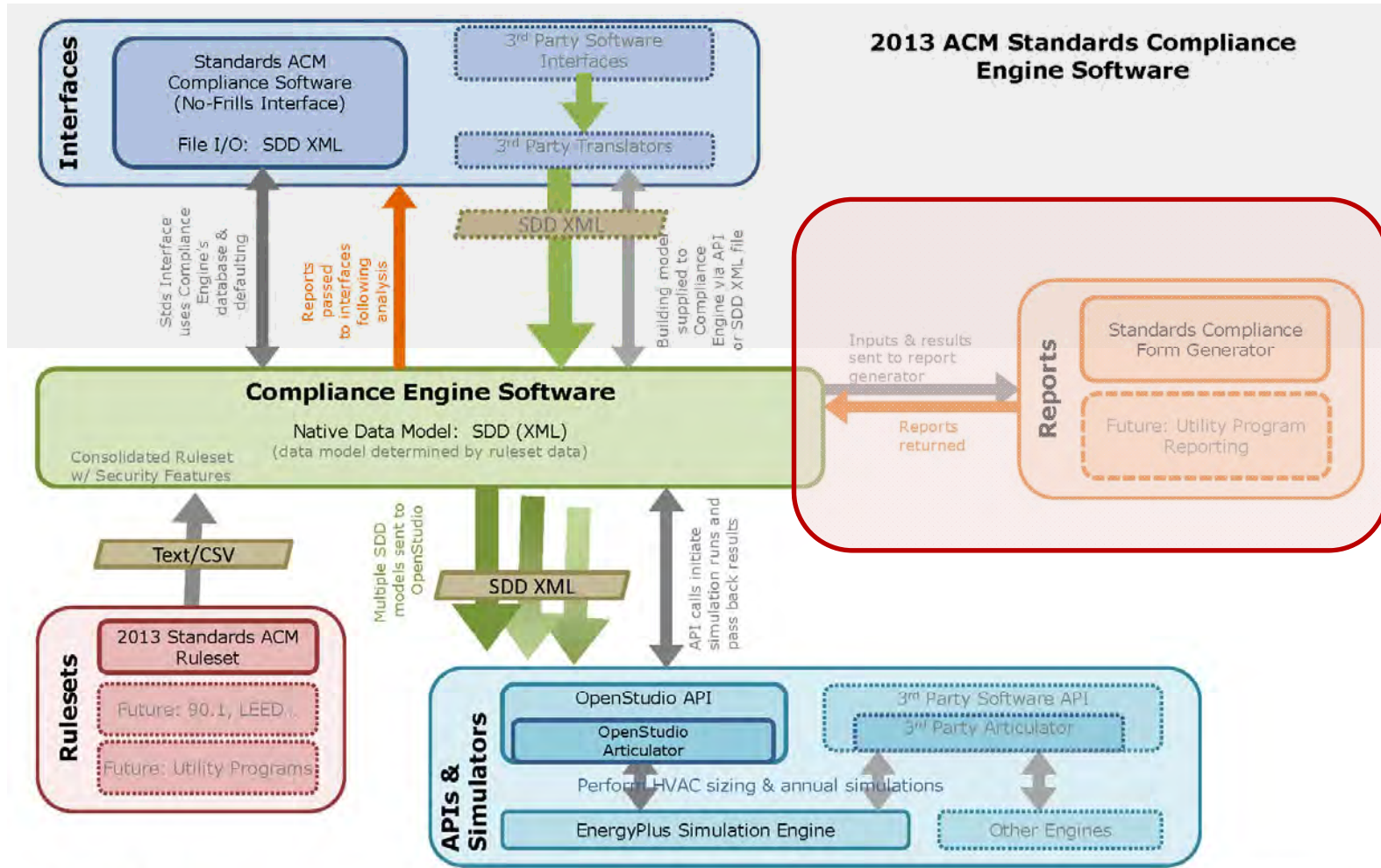


Diagram key:

- Transfer of building model via SDD (XML) (multiple arrows imply transfer of multiple building models)
- Transfer of compliance reports

- Inter-process communication of data and/or API calls

- Possible future modules



Let's Talk

- Welcome
- What We Heard from You

▶ Let's Talk

- Here, Now and Next

- Next Steps
- Wrap Up





Challenges (Phase of Project)



✦ Challenge A

- ✦ Let's Get Organized



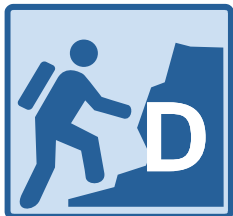
✦ Challenge B

- ✦ NRCC-PRF



✦ Challenge C

- ✦ How to use the NRCC-PRF



✦ Challenge D

- ✦ Troubleshooting



Our Question To You



How do you prepare for modeling/reviewing/inspecting the NRCC-PRF form produced by Energy Pro, IESVE and CBECC-Com?

Preparing to model a building for compliance is a significant endeavor that you cannot really prepare for and reviewing and inspecting are very similar.

I have not put much thought into every aspect of the form other than my compliance percentage to be honest.

Develop a list of building specifications and review this list alongside the drawing set and the NRCC-PRF. Next I move to the model itself to review in more detail.

Mostly trial and error, my modeling hasn't changed but I need more time to navigate the reports for error checking.

By reviewing the plans and building components



Challenge A

Challenge A

Let's Get Organized



Challenge A: Organize Yourself

Questions to Ask Yourself

What is your role?

- ✧ Review Features
 - Energy Consultant
 - Architect/Designer
 - Engineer
- ✧ Verify Features
 - Plans Examiner
 - Building Inspector
- ✧ Install/Test Features
 - Contractor
 - ATT/HERS rater

What are my responsibilities?

- ✦ Review Features
 - ✧ Review that features are documented correctly and make sense
- ✦ Verify Features
 - ✧ Verify that features of design match documentation
- ✦ Install/Test Features
 - ✧ Install and test features documented in field



Use Your Time Wisely



User Oriented Form Features

- ✦ **Review:** *Making sure what is being shown for compliance is the intent of the design and cohesive with code.*
- ✦ **Verify:** *Reviewing design against NRCC-PRF to make sure features modeled accurately.*
- ✦ **Install/Test:** *Pulling out features that must be installed in building (or better) and trigger testing.*

Project General Information "A"

Compliance Results "B" and "C"

Above and beyond minimum compliance "D", "E", "F"

Compliance Path and Documentation "G", "H"

Envelope "I", "J", "K", "L"

Mechanical "M", "N", "O", "P"

Indoor Lighting in conditioned spaces "Q", "R"

Covered Process "S"

Unmet Load Hours "T"

Signatures



What Are My Responsibilities?

Review Features

- ❖ Energy Consultant
- ❖ Architect
- ❖ Designer
- ❖ Engineer



NRCC-PRF-01-E

“Review” Key for 2013 NRCC-PRF Form (Energy Consultant/Architect/Engineer)

Project General Information “A” (what does it define)		
<input type="checkbox"/>	Location (zip code and climate zone)	Baseline envelope and some HVAC features
<input type="checkbox"/>	Conditioned floor area	Baseline lighting LPD allowances; HVAC system type; Cx type
<input type="checkbox"/>	Unconditioned floor area	Baseline outdoor LPD allowances
<input type="checkbox"/>	Number of Stories	Sets baseline HVAC equipment type
<input type="checkbox"/>	Number of dwelling units	baseline DHW budgets
<input type="checkbox"/>	Building Orientation	Baseline fenestration WWR allowances; Cooling loads based on heat gain of sun
Compliance Results “B” and “C” (what features are helping or hurting the compliance TDV margin)		

Project General Information “A” (what does it define)		
<input type="checkbox"/>	Location (zip code and climate zone)	Baseline envelope and some HVAC features
<input type="checkbox"/>	Conditioned floor area	Baseline lighting LPD allowances; HVAC system type; Cx type
<input type="checkbox"/>	Unconditioned floor area	Baseline outdoor LPD allowances
<input type="checkbox"/>	Number of Stories	Sets baseline HVAC equipment type
<input type="checkbox"/>	Number of dwelling units	baseline DHW budgets
<input type="checkbox"/>	Building Orientation	Baseline fenestration WWR allowances; Cooling loads based on heat gain of sun

<input type="checkbox"/>	Mechanical “M”, “N”, “O”, “P” - Primary features for compliance (further details are documented after the signatures, if applicable)	Equipment type, heating and cooling output, minimum efficiency (dry – air systems / wet – hydronic systems); fan CFM and BHP (so important); economizers; controls; solar hot water (if applicable)
Indoor Lighting in conditioned spaces “Q”, “R” (unconditioned lighting cannot be included in performance calculation) Primary features for compliance (further details are documented after the signatures, if applicable)		
<input type="checkbox"/>	Occupancy of spaces	
<input type="checkbox"/>	Lighting type, number of fixtures, wattage associated with fixture	
Covered Process “S” (features that may be modeled via the performance method)		
<input type="checkbox"/>	Equipment type, features and controls	
Unmet Load Hours “T”		
<input type="checkbox"/>	This is not a code requirement at this time, but will be for the 2016 code. PAY ATTENTION TO THESE NOW.	
Signatures		
<input type="checkbox"/>	Sign (this is the #1 plan check comment)	



What Are My Responsibilities?

Verify Features

- ❖ Plans Examiner
- ❖ Building Inspector



Decoding Talks™



NRCC-PRF-01-E

"Verify" Key to 2013 NRCC-PRF Form (Plans Examiner / Building Inspector)		
Project General Information "A" (what does it define)		
<input type="checkbox"/> PE	Location	Baseline envelope and some HVAC features
<input type="checkbox"/> PE	Conditioned floor area	Baseline lighting LPD allowances; HVAC system type; Cx type
<input type="checkbox"/> PE	Unconditioned floor area	Baseline outdoor LPD allowances
<input type="checkbox"/> PE	Number of Stories	Sets baseline HVAC equipment type
<input type="checkbox"/> PE	Number of dwelling units	Baseline DHW budgets
<input type="checkbox"/> PE	Building Orientation	Baseline fenestration WWR allowances; Cooling loads based on heat gain of sun
<input type="checkbox"/> BI	Has anything changed from permit review?	Changes to any of the features listed above WILL change compliance and should be rerun and verified by plan check.
Compliance Results "B" and "C" (what features are helping or hurting the compliance TDV margin)		
<input type="checkbox"/> PE	Compliance total	Compliance to Title 24 Part 6.3 (building department submittal. Spend some

Project General Information "A" (what does it define)		
<input type="checkbox"/> PE	Location	Baseline envelope and some HVAC features
<input type="checkbox"/> PE	Conditioned floor area	Baseline lighting LPD allowances; HVAC system type; Cx type
<input type="checkbox"/> PE	Unconditioned floor area	Baseline outdoor LPD allowances
<input type="checkbox"/> PE	Number of Stories	Sets baseline HVAC equipment type
<input type="checkbox"/> PE	Number of dwelling units	Baseline DHW budgets
<input type="checkbox"/> PE	Building Orientation	Baseline fenestration WWR allowances; Cooling loads based on heat gain of sun
<input type="checkbox"/> BI	Has anything changed from permit review?	Changes to any of the features listed above WILL change compliance and should be rerun and verified by plan check.

applicable). DHW may not be included in performance and could be documented via prescriptive method		
<input type="checkbox"/> PE	Equipment type, heating and cooling output, minimum efficiency (dry – air systems / wet – hydronic systems); fan CFM and BHP (so important); economizers; controls; solar hot water (if applicable)	
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Has equipment been tested per NRCA forms?	
Indoor Lighting in conditioned spaces "Q", "R" (unconditioned lighting cannot be included in performance calculation)		
Primary features for compliance (further details are documented after the signatures, if applicable)		
<input type="checkbox"/> PE	Occupancy of spaces (sets LPD budgets and control allowances)	
<input type="checkbox"/> PE	Lighting type, number of fixtures, wattage associated with fixture; controls (mandatory and PAF)	
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Have controls been tested by ATT with NRCA forms?	
Covered Process "S" (features that may be modeled via the performance method)		
<input type="checkbox"/> PE	Equipment type, features and controls	
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Has equipment been tested per NRCA forms?	
Unmet Load Hours "T"		
<input type="checkbox"/> PE	This is not a code requirement at this time, but will be for the 2016 code.	
Signatures		
<input type="checkbox"/> PE	Signatures provided	



What Are My Responsibilities?

Install/Test Features

- ❖ Installing Contractor
- ❖ General Contractor
- ❖ ATT
- ❖ HERS Rater



NRCC-PRF-01-E

"Install/Test" Key to 2013 NRCC-PRF Form (Contractor/ATT/HERS)	
Project General Information "A"	
<input type="checkbox"/> Location	Do you have the right building?
Compliance Results "B" and "C"	
Above and beyond minimum compliance "D", "E", "F"	
<input type="checkbox"/>	HERS measures are listed here
Compliance Path and Documentation "G", "H"	
<input type="checkbox"/>	Provide all forms applicable (Performance / Prescriptive / Mandatory) Envelope; Mechanical; Indoor Lighting (conditioned); Indoor Lighting (unconditioned); Outdoor Lighting; Sign Lighting; Plumbing (DHW and Solar Hot Water); Commissioning; Electrical; Covered Process NRCI: Installation certificates provided by installing contractors NRCA: Acceptance certificates provided by ATT or contractor (as required) NRCV: HERS forms
Envelope "I", "J", "K", "L" (as modeled "or better")	
Project General Information "A"	
<input type="checkbox"/> Location	Do you have the right building?
Compliance Results "B" and "C"	
Above and beyond minimum compliance "D", "E", "F"	
<input type="checkbox"/>	HERS measures are listed here
Compliance Path and Documentation "G", "H"	
<input type="checkbox"/>	Provide all forms applicable (Performance / Prescriptive / Mandatory) Envelope; Mechanical; Indoor Lighting (conditioned); Indoor Lighting (unconditioned); Outdoor Lighting; Sign Lighting; Plumbing (DHW and Solar Hot Water); Commissioning; Electrical; Covered Process NRCI: Installation certificates provided by installing contractors NRCA: Acceptance certificates provided by ATT or contractor (as required) NRCV: HERS forms
<input type="checkbox"/>	refrigerated warehouse
<input type="checkbox"/>	NRCA-PRC-##-F For all covered process features. To be provide by installing contractor Compressed Air; Kitchen Exhaust; Garage Exhaust; Refrigerated Warehouse



Check your understanding





Drag and drop

What is your role?

- ✧ Review Features
 - Energy Consultant
 - Architect/Designer
 - Engineer

- ✧ Verify Features
 - Plans Examiner
 - Building Inspector

- ✧ Install/Test Features
 - Contractor
 - ATT/HERS rater

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 - ✧ Install and test features documented in field



Challenge B

Challenge B

✦ Navigating the NRCC-PRF-01



Navigating the Form

Tips for Success

- ✦ Process for form re-design
- ✦ Overview of form layout
- ✦ How things are documented



Re-designing the Form- Why?

- Hearing from Plans Examiners it was hard to work with the 2013 NRCC-PRF-01 form & from Energy Consultants all the prescriptive back up was overkill

- Partnered with CEC & CBECC-Com software team to address issue with plans examiners as target audience

- Engaged CALBO Energy Committee, various ICC Chapters and building departments directly, as well as Energy Code Ace Instructors

- Interviewed to understand needs, then created draft and distributed for comments. Implemented comments as much as possible



Why Are the Forms Glowing?

Executive Summary

Project Name: ERMEN		MIG-APP-014		Page 1 of 24	
Project Address: Food Square (S47)		Creation Date/Time: 10.15.14 10:04:00		Revision: 1	
Compliance Issue: Non-Compliance		Input File Name: ERMEN_01.rvt		Compliance Issue: Non-Compliance	

A. PROJECT GENERAL INFORMATION					
1. Project Location (City)	Osaka	2. I. I.P. Drawing Unit	0		
3. I.P. Scale	1/8" = 1'-0"	4. Building Number	Commercial 1013		
5. Office Size		6. Building Location (District)	Downtown 01		
7. Total Construction Floor Area	11375.01	8. Building Construction Stage	001000 Eng.		
9. Total Construction Cost (Millions)	1500.00	10. Building Code Reference	International		
11. I.P. Form Codebook (Code Book)	1	12. Building Type(s)	NonResidential		

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS					
BUILDING COMPLIES					
A. Energy Component	B. Standard Design (TD)	C. Proposed Design (TD)	D. Compliance Margin (TD)	E. Performance Value Reported	
Glazing	4.0	3.3	0.7	0.23	
Roof Ceiling	69.0	78.0	-9.0	-0.40	
Interior Walls	0.0	18.0	-18.0	-0.76	
Interior Partition	-	-	-	-	
Floors & Walls	1.0	1.6	-0.6	-0.16	
Concrete Core Wall	1.0	1.0	0.0	0.00	
Exterior Lighting	51.0	48.0	3.0	0.04	
Lighting Controls	66.0	66.0	0.0	0.00	
Acoustics	7.0	7.0	0.0	0.00	
Indoor Air Quality	13.0	13.0	0.0	0.00	
Water Saving	-	-	-	-	
TOTAL	137.0	137.0	0.0	0.00	

© Building Design Efficiency Standards 2010 International Compliance Report Version: MIG-APP-014-6-0102010-02 Report Generated at: 10:15:14 on 10/15/14

Details Sections

Project Name: ERMEN		MIG-APP-014		Page 16 of 24	
Project Address: Food Square (S47)		Creation Date/Time: 10.15.14 10:04:00		Revision: 1	
Compliance Issue: Non-Compliance		Input File Name: ERMEN_01.rvt		Compliance Issue: Non-Compliance	

DECLARATION STATEMENT		SECTION 101	
I, the undersigned, certify that the information contained in this declaration is accurate and complete.			
Company Name: ERMEN INC.		Signature: [Signature]	
Company Address: 10100 15th Ave		Date Signed: [Date]	
Company Phone: 312-424-3333		Title: [Title]	

RESPONSIBLE PERSON'S DECLARATION STATEMENT		SECTION 102	
I, the undersigned, certify that the information contained in this declaration is accurate and complete.			
Company Name: ERMEN INC.		Signature: [Signature]	
Company Address: 10100 15th Ave		Date Signed: [Date]	
Company Phone: 312-424-3333		Title: [Title]	

© Building Design Efficiency Standards 2010 International Compliance Report Version: MIG-APP-014-6-0102010-02 Report Generated at: 10:15:14 on 10/15/14



Form Layout- "Executive Summary"

Project Name: Winery
Project Address: Road Sonoma 95473
Calculation Date/Time: 10:59, Tue, Nov 24, 2015
Page 5 of 21

Project Name: Winery
Project Address: Road Sonoma 95473
Calculation Date/Time: 10:59, Tue, Nov 24, 2015
Page 7 of 21

Project Name: Winery
Project Address: Road Sonoma 95476
Calculation Date/Time: 10:59, Tue, Nov 24, 2015
Page 9 of 21

Project Name: Winery
Project Address: Road Sonoma 95476
Calculation Date/Time: 10:59, Tue, Nov 24, 2015
Compliance Scope: NewComplete
Input File Name: Winery.cbcr.rbd
Page 7 of 21

Project Name: Winery
Project Address: Road Sonoma 95476
Calculation Date/Time: 10:59, Tue, Nov 24, 2015
Compliance Scope: NewComplete
Input File Name: Winery.cbcr.rbd
Page 1 of 21

A. PROJECT			
1. Project		7. # of dwelling units	0
2. CA/rp		8. Standards Version	Compliance 2015
3. Climate		9. Compliance Software Version	CELCC-Com 2013-2 (1/6)
4. Total G		10. Building Orientation (deg)	(N) 90 deg
5. Total U		11. Permit Scope of Work	NewComplete
6. # of St		12. Building Type(s)	Nonresidential

B. COMPLIANCE			
		\$ 440.1	
COMPLIES			
1. Energy Design (TDV)	2. Compliance Margin (TDV)	3. Percent Better than Standard	
Space Heating	11.1	4.0	25.3%
Space Cooling	79.0	39.4	27.6%
Indoor Air	67.8	-8.8	-13.9%
Heat Rejection	--	--	--
Pumps & Motors	0.8	3.8	--
Domestic Hot Water	--	--	--
Indoor Lighting	18.3	91.5	22.7%
COMPLIANCE TOTAL	302.6	249.4	17.6%
Receptacle	225.2	225.2	0.0%
Process	140.1	140.1	0.0%
Process Int	--	--	--
TOTAL	667.9	618.7	8.0%

<< Red Flag!

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance
Report Version: NRCC-01-E
Report Date: 2015-11-24 11:00:15

EXAMPLE

- Envelope Executive Summary:
- I. Envelope General Info
 - J. Fenestration Assembly Summary
 - K. Opaque Surface Assembly Summary
 - L. Roofing Product Summary

Similar Exec Summaries for:

- HVAC
- lighting and
- covered process



Form Layout- "Detail Sections"

Project Name:	Winery	NRCC-PRF-01-E	Page 18 of 21
Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
Compliance Scope:	NewComplete	Input File Name:	Winery cbccc.cidd
S. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS (Adapted from 2013-NRCC-MCH-01-E) § R44			
Declaration of Required Acceptance Certificates (NRCC) - Acceptance Certificates that may be submitted in certain copies and verify forms are completed and signed to assist in field for field inspector to verify.			
Total Observations:	0/0	0/0	0/0

Project Name: Winery | NRCC-PRF-01-E | Page 19 of 21

Project Name: Winery | NRCC-PRF-01-E | Page 20 of 21

Project Name: Winery | NRCC-PRF-01-E | Page 21 of 21

EXAMPLE

- ENV-DETAILS-SECTION START-
- A. Opaque Surface Assembly Details
- B. Overhang Details
- C. Opaque Door Summary

Similar Detail Sections for:

- HVAC-DETAILS-SECTION START-
- LTI-DETAILS-SECTION START-

Project Name:	Winery	NRCC-PRF-01-E	Page 14 of 21
Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
Compliance Scope:	NewComplete	Input File Name:	Winery cbccc.cidd
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT § 10-103			
I certify that this Certificate of Compliance documentation is accurate and complete.			
Documentation Author Name:	Gina Rodda	Signature:	<i>Gina Rodda</i>
Company:	Gabel Associates, LLC	Signature Date:	11/24/15
Address:	1818 Harmon St.	CEA Identification (if applicable):	
City/State/Zip:	Berkeley CA 94703		
Phone:	(510) 478-0933 x14		
RESPONSIBLE PERSON'S DECLARATION STATEMENT			
I certify the following under penalty of perjury, under the laws of the State of California:			
1	I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation, and that I am licensed in the State of California as a civil engineer, mechanical engineer, electrical engineer, or I am a licensed architect.		
2	I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation, and that I am a licensed contractor performing this work.		
3	I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.		
Responsible Envelope Designer Name:	Happy Architect	Signature:	<i>Happy Architect</i>
Company:	Architect	Date Signed:	11/24/15
Address:	Main St	Declaration Statement Type:	1
City/State/Zip:	Happy Town CA 94572	Title:	Lead
Phone:		License #:	11111
Responsible Lighting Designer Name:	Happy Architect	Signature:	<i>Happy Architect</i>
Company:	Architect	Date Signed:	11/24/15
Address:	Main St	Declaration Statement Type:	1
City/State/Zip:	Happy Town CA 94572	Title:	Lead
Phone:		License #:	11111
Responsible Mechanical Designer Name: - specify -	Happy Architect	Signature:	<i>Happy Architect</i>
Company:	Architect	Date Signed:	11/24/15
Address:	Main St	Declaration Statement Type:	1
City/State/Zip:	Happy Town CA 94572	Title:	Lead
Phone:		License #:	11111

Starts After Signature Block



Form Features- Tables B & C



B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS

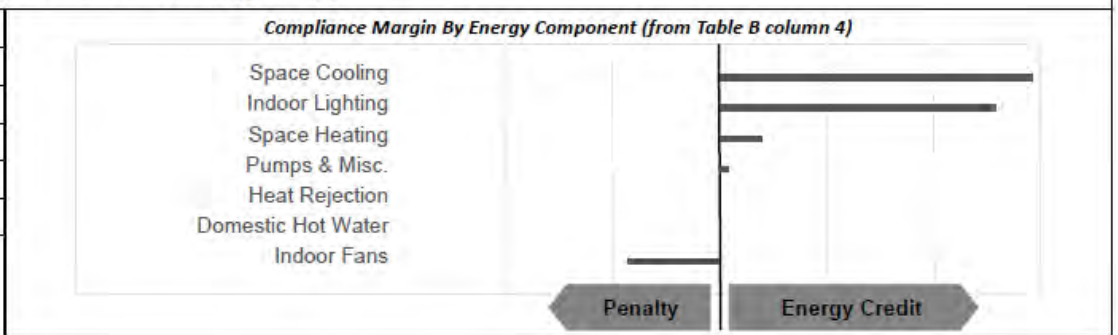
BUILDING COMPLIES

Ace Reference TM \$ 140.1

1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)	5. Percent Better than Standard
Space Heating	15.1	11.1	4.0	26.5%
Space Cooling	109.4	79.0	30.4	27.8%
Indoor Fans	59.0	67.8	-8.8	-14.9%
Heat Rejection	--	--	--	--
Pumps & Misc.	0.8	--	0.8	--
Domestic Hot Water	--	--	--	--
Indoor Lighting	118.3	91.5	26.8	22.7%
COMPLIANCE TOTAL	302.6	249.4	53.2	17.6%
Receptacle	225.2	225.2		0.0%
Process	140.1	140.1		0.0%
Process Ltg	--	--		--
TOTAL	667.9	614.7		8.0%

C. PRIORITY PLAN CHECK/ INSPECTION ITEMS (in order of highest to lowest TDV energy savings)




1st	Space Cooling: Check envelope and mechanical
2nd	Indoor Lighting: Check lighting
3rd	Space Heating: Check envelope and mechanical
4th	Pumps & Misc.: Check mechanical
5th	Heat Rejection: Check envelope and mechanical
6th	Domestic Hot Water: Check mechanical
7th	Indoor Fans: Check envelope and mechanical





Form Features- Table G



G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY			
<i>Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project</i>			
<i>For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.</i>			
Building Component	Compliance Path	Compliance Forms (required for submittal)	Location of Mandatory Notes on Plans
Envelope 	<input checked="" type="checkbox"/> Performance	NRCC-PRF-ENV-DETAILS (section of the NRCC-PRF-01-E)	A1 
	<input type="checkbox"/> Prescriptive	NRCC-ENV-01 / 02 / 03 / 04 / 05 / 06-E	
	<input type="checkbox"/> NA		
Mechanical	<input checked="" type="checkbox"/> Performance	NRCC-PRF-MCH-DETAILS (section of the NRCC-PRF-01-E)	M1
	<input type="checkbox"/> Prescriptive	NRCC-MCH-01 / 02 / 03 / 04 / 05 / 06 / 07-E	
	<input type="checkbox"/> NA		
Domestic Hot Water	<input type="checkbox"/> Performance	NRCC-PRF-PLB-DETAILS (section of the NRCC-PRF-01-E)	by others
	<input checked="" type="checkbox"/> Prescriptive	NRCC-PLB-01-E	
	<input type="checkbox"/> NA		
Lighting (Indoor Conditioned)	<input checked="" type="checkbox"/> Performance	NRCC-PRF-LTI-DETAILS (section of the NRCC-PRF-01-E)	L1
	<input type="checkbox"/> Prescriptive	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	
	<input type="checkbox"/> NA		
Covered Process: Commercial Kitchens	<input type="checkbox"/> Performance	S2 (section of the NRCC-PRF-01-E)	
	<input type="checkbox"/> Prescriptive	NRCC-PRC-01/ 03-E	
	<input checked="" type="checkbox"/> NA		
Covered Process: Computer Rooms	<input type="checkbox"/> Performance	S3 (section of the NRCC-PRF-01-E)	
	<input type="checkbox"/> Prescriptive	NRCC-PRC-01/ 04-E	
	<input checked="" type="checkbox"/> NA		
Covered Process: Laboratory Exhaust 	<input type="checkbox"/> Performance	S4 (section of the NRCC-PRF-01-E)	
	<input type="checkbox"/> Prescriptive	NRCC-PRC-01/ 09-E	
	<input checked="" type="checkbox"/> NA		



Form Features- Table G Cont.



G. COMPLIANCE PATH & CERTIFICATE SUMMARY			
The following building components are or may be subject to prescriptive compliance. Indicate which are relevant to the project.		The following building components may have mandatory compliance requirements under Part 6. Indicate which are relevant to the project.	
Yes	NA	Prescriptive Requirement	Compliance Forms
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lighting (Sign) §140.8	NRCC-LTS-01-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E

Yes	NA	Mandatory Requirement	Compliance Forms
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Commissioning: §120.8	NRCC-CXR-01 / 02 / 03 / 05-E
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Simple Systems	NRCC-CXR-01 / 02 / 04 / 05-E
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Complex Systems	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Electrical: §130.5	NRCC-ELC-01-E
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Solar Ready: §110.10	NRCC-SRA-01 / 02-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Covered Process: §120.6	NRCC-PRC-01-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Parking Garage	NRCC-PRC-02-E
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Commercial Refrigeration	NRCC-PRC-05-E
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Warehouse Refrigeration	NRCC-PRC-06/07/08-E
<input type="checkbox"/>	<input type="checkbox"/>	Compressed Air	NRCC-PRC-10-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Process Boilers	NRCC-PRC-11-E



Form Features- Table H



H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.		Confirmed	
		Pass	Fail
Building Component	Compliance Forms <i>(required for submittal)</i>		
Envelope	<input checked="" type="checkbox"/> NRCI-ENV-01-E - For all buildings	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-ENV-02-F- NFRC label verification for fenestration	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical	<input checked="" type="checkbox"/> NRCI-MCH-01-E - For all buildings with Mechanical Systems	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-MCH-02-A- Outdoor Air	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-MCH-03-A – Constant Volume Single Zone HVAC	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-04-H- Air Distribution Duct Leakage	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-05-A- Air Economizer Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-MCH-06-A- Demand Control Ventilation	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-07-A – Supply Fan Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-08-A- Valve Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-09-A – Supply Water Temp Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-10-A- Hydronic System Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-11-A – Auto Demand Shed Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-12-A- Packaged Direct Expansion Units	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-13-A- Air Handling Units and Zone Terminal Units	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-14-A- Distributed Energy Storage	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-15-A – Thermal Energy Storage	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-16-A- Supply Air Temp Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-17-A – Condensate Water Temp Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-18-A- Energy Management Controls Systems	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCV-MCH-04-H- Duct Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>



Form Features- Compliance Credit Checks



J. FENESTRATION ASSEMBLY SUMMARY							§ 110.6		Confirmed	
1.	2.	3.	4.	5.	6.	7.	8.	9.	Pass	Fail
Fenestration Assembly Name / Tag or I.D.	Fenestration Type	Certification Method ¹	Assembly Method	Area ft ²	Overall U-factor	Overall SHGC	Overall VT	Status ²		
COG: DI SolarBan 60 Al w/TB Frch	VerticalFenestration	COGEquations	SiteBuilt	42	0.45	0.42	0.26	N	<input type="checkbox"/>	<input type="checkbox"/>
COG: DI SolarBan 60 Al w/TB Csmt	VerticalFenestration	COGEquations	SiteBuilt	281	0.45	0.42	0.34	N	<input type="checkbox"/>	<input type="checkbox"/>

¹ Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Site-built fenestration less than 1,000 ft², or more than or equal to 1,000 ft² see Reference Nonresidential Appendix NA6.

² Status: N - New, A - Altered, E - Existing

Taking compliance credit for fenestration shading devices? (if "Yes", see NRCC-PRF-ENV-DETAILS for more information)	
--	--

A "Yes" here means to dig deeper under "details" ^

How should we deal with features that can't be modeled as designed? See Table F "Additional Remarks"

F. ADDITIONAL REMARKS
VRF system modeled as small separate split dx minimum efficiency fan coil units since software doesn't allow for VRF systems to be modeled as designed.



Mechanical Documentation



M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information)											§ 110.1 / § 110.2		
Dry System Equipment ¹ (Fan & Economizer info included below in Table N)											Confirmed		
1. Equip Name	2. Equip Type	3. System Type (Simple ³ or Complex ⁴)	4. Qty	5. Total Heating Output (kBtu/h)	6. Supp Heat Source (Y/N)	7. Supp Heat Output (kBtu/h)	8. Total Cooling Output (kBtu/h)	9. Efficiency		10. Acceptance Testing Required? (Y/N) ⁵	11. Status ⁶	Pass	Fail
								Cooling	Heating				
FC-31	SZHP (Split3Phase)	Simple	1	24	Yes	36	30	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>
FC-429	SZHP (Split3Phase)	Simple	1	12	Yes	36	14	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>
FC-154	SZHP (Split3Phase)	Simple	1	3	Yes	36	6	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>
FC-261	SZHP (Split3Phase)	Simple	1	7	Yes	36	11	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>
FC-569	SZHP (Split3Phase)	Simple	1	10	Yes	36	16	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>

Wet System Equipment ²											Pumps				Confirmed	
12. Equip Name	13. Equip Type	14. Qty	15. Vol (gal)	16. Rated Capacity (kBtu/h)	17. Efficiency	18. Standby Loss	19. Tank Ext. R Value	20. Qty	21. GPM	22. HP	23. VSD (Y/N)	24. Status ⁶	Pass	Fail		

¹ Dry System Equipment includes furnaces, air handling units, heat pumps, etc.

² Wet System Equipment includes boilers, chillers, cooling towers, water heaters, etc.

³ Simple Systems must complete NRCC-CXR-03-E commissioning design review form

⁴ Complex Systems must complete NRCC-CXR-04-E commissioning design review form

⁵ A summary of which acceptance tests are applicable is provided in NRCC-PRF-MCH-DETAILS

⁶ Status: N - New, A - Altered, E - Existing



Challenge C

Challenge C

How to Use the NRCC-PRF



Components Modeled

Compliance

- ◆ Project General Information
- ◆ Compliance Results / Above and Beyond
- ◆ Compliance Path and Documentation

Envelope

- ◆ Fenestration
- ◆ Opaque Assemblies
- ◆ Roofing

Mechanical/Covered Process

- ◆ Equipment (Dry and Wet)
- ◆ Economizers and Fans
- ◆ Controls and Distribution

Lighting

- ◆ Occupancy of Room
- ◆ Light type, wattage and # of fixtures
- ◆ Controls



Compliance: Table "A"

Project General Information "A" (what does it define)		
<input type="checkbox"/> PE	Location	Baseline envelope and some HVAC features
<input type="checkbox"/> PE	Conditioned floor area	Baseline lighting LPD allowances; HVAC system type; Cx type
<input type="checkbox"/> PE	Unconditioned floor area	Baseline outdoor LPD allowances
<input type="checkbox"/> PE	Number of Stories	Sets baseline HVAC equipment type
<input type="checkbox"/> PE	Number of dwelling units	Baseline DHW budgets
<input type="checkbox"/> PE	Building Orientation	Baseline fenestration WWR allowances; Cooling loads based on heat gain of sun
<input type="checkbox"/> BI	Has anything changed from permit review?	Changes to any of the features listed above WILL change compliance and should be rerun and verified by plan check.

Project Name:	Winery	NREL-P3-201-F	Page 1 of 21
Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:50, Tue, Nov 24, 2015
Compliance Scope:	New/Complete	Report File Name:	Winery.cbcc.rbd
A. PROJECT GENERAL INFORMATION			
1. Project Location (city)	Sonoma	7. # of dwelling units	0
2. CA Zip Code	95476	8. Standards Version	Compliance2015
3. Climate Code	2	9. Compliance Software (version)	ENERGY-10M 2013-05 (160)
4. Total Conditioned Floor Area	5,913 ft ²	10. Building Orientation (deg)	(N) 341 deg
5. Total Unconditioned Floor Area	5,377 ft ²	11. Permitted Scope of Work	New/Complete
6. # of Stories (Habitable Above Grade)	2	12. Building Type(s)	Nonresidential
B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS			§ 140.1
BUILDING COMPLIES			
1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)
	15.1	11.1	4.0

A. PROJECT GENERAL INFORMATION				
1.	Project Location (city)	Sonoma	7. # of dwelling units	0
2.	CA Zip Code	95476	8. Standards Version	Compliance2015
3.	Climate Zone	2	9. Compliance Software (version)	EnergyPro 6.7
4.	Total Conditioned Floor Area	11,373 ft ²	10. Building Orientation (deg)	(N) 341 deg
5.	Total Unconditioned Floor Area	5,620 ft ²	11. Permitted Scope of Work	New/Complete
6.	# of Stories (Habitable Above Grade)	2	12. Building Type(s)	Nonresidential

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance Report Version: NREL-P3-201-F-1.1 (2015) Report Generated at: 2015-11-24 11:57:15



Compliance: Table "B"

Compliance Results "B" and "C" (what features are helping or hurting the compliance TDV margin)		
<input type="checkbox"/> PE	Compliance total	Compliance to Title 24 Part 6 % (building department submittal. Spend some extra time on the 1 st and 7 th placed features (best and worst))
<input type="checkbox"/> PE	Total	All energy using features (NOT FOR COMPLIANCE) %

Look for "Building Complies"

BUILDING DOES NOT COMPLY

Project Name:	Winery	ADCC-01-01-F	Page 1 of 21
Project Address:	Road Sonoma 95676	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
Compliance Report:	NewComplete	Input File Name:	Winery01erc.rtd

A. PROJECT GENERAL INFORMATION			
1. Project Location (City)	Sonoma	7. # of dwelling units	0
2. CA Zip Code	94445	8. Standard Version	Compliance 2015
3. Climate Zone	2	9. Compliance Software (Version)	CLCC-Com 2015-05 (7/6)
4. Total Conditioned Floor Area	3,813 sq ft	10. Building Orientation (deg)	(8) 345 deg
5. Total Unconditioned Floor Area	5,077 sq ft	11. Permittee Scope of Work	NewComplete
6. # of Stories (Excluding Above Grade)	2	12. Building Type(s)	Nonresidential

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS § 140.1				
BUILDING COMPLIES				
1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)	5. Percent Better than Standard
Space Heating	15.1	11.1	4.0	26.2%
Space Cooling	109.4	79.0	30.4	27.8%
Indoor Fans	50.0	07.8	-0.8	-1.6%
Heat Rejection	--	--	--	--
Pumps & Misc.	0.0	--	0.8	--
Domestic Hot Water	--	--	--	--
Indoor Lighting	18.9	--	--	--
COMPLIANCE TOTAL	207.6	177.9	29.7	14.3%
Receptacle	25.2	--	--	--
Process	181.1	--	--	--
Process Ltg	--	--	--	--
TOTAL	667.9	1,676.1	1,008.2	151.0%

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS § 140.1				
BUILDING COMPLIES				
1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)	5. Percent Better than Standard
Space Heating	5.3	1.4	3.9	73.6%
Space Cooling	78.9	83.8	-4.9	-6.2%
Indoor Fans	39.3	45.3	-6.0	-15.3%
Heat Rejection	--	--	--	--
Pumps & Misc.	0.5	0.5	--	0.0%
Domestic Hot Water	3.2	3.1	0.1	3.1%
Indoor Lighting	50.7	43.8	6.9	13.6%
COMPLIANCE TOTAL	177.9	177.9	0.0	0.0%
Receptacle	76.7	76.7	0.0	0.0%
Process	1,421.5	1,421.5	0.0	0.0%
Process Ltg	--	--	0.0	0.0%
TOTAL	1,676.1	1,676.1	0.0	0.0%

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance



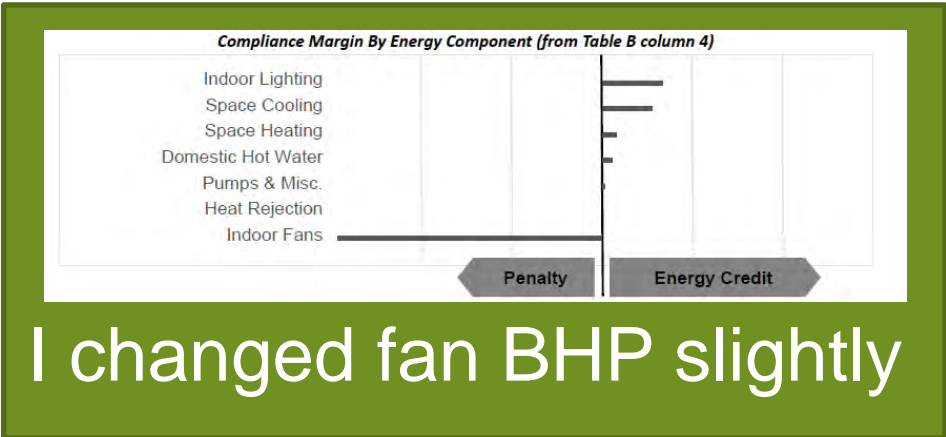
Compliance: Table "C"

Compliance Results "B" and "C" (what features are helping or hurting the compliance TDV margin)

<input type="checkbox"/> PE	Compliance total	Compliance to Title 24 Part 6 % (building department submittal. Spend some extra time on the 1 st and 7 th placed features (best and worst))
<input type="checkbox"/> PE	Total	All energy using features (NOT FOR COMPLIANCE) %

Above and beyond minimum compliance "D", "E", "F"

PE These are listed as features that are providing "extra credit": additional verification and understand what is being



I changed fan BHP slightly

Project Name:	Winery	NRCC-PR-01-F	Page 2 of 21
Project Address:	Road Sonoma 95676	Calculation Date/Time:	10:50, Tue, Nov 24, 2015
Compliance Scope:	New/Complete	Input File Name:	Winery.cbcc.rbd

Rank	Item	Margin Type	Value
1st	Space Cooling: Check envelope and mechanical	Energy Credit	~15%
2nd	Indoor Lighting: Check lighting	Energy Credit	~10%
3rd	Space Heating: Check envelope and mechanical	Energy Credit	~5%
4th	Pumps & Misc.: Check mechanical	Energy Credit	~2%
5th	Heat Rejection: Check envelope and mechanical	Energy Credit	~1%
6th	Domestic Hot Water: Check mechanical	Energy Credit	~1%
7th	Indoor Fans: Check envelope and mechanical	Penalty	~-15%

D. EXCEPTIONAL CONDITIONS The building does not include service water heating. Verify that service water heating is not required and is not included in the design.			
E. HERS VERIFICATION This Section Does Not Apply			
F. ADDITIONAL VERIFICATION			

Rank	Item	Margin Type	Value
1st	Space Cooling: Check envelope and mechanical	Energy Credit	~15%
2nd	Indoor Lighting: Check lighting	Energy Credit	~10%
3rd	Space Heating: Check envelope and mechanical	Energy Credit	~5%
4th	Pumps & Misc.: Check mechanical	Energy Credit	~2%
5th	Heat Rejection: Check envelope and mechanical	Energy Credit	~1%
6th	Domestic Hot Water: Check mechanical	Energy Credit	~1%
7th	Indoor Fans: Check envelope and mechanical	Penalty	~-15%

Compliance Margin By Energy Component (from Table B column 4)

Energy Component	Margin Type	Value
Space Cooling	Energy Credit	~20%
Indoor Lighting	Energy Credit	~10%
Space Heating	Energy Credit	~5%
Pumps & Misc.	Energy Credit	~2%
Heat Rejection	Energy Credit	~1%
Domestic Hot Water	Energy Credit	~1%
Indoor Fans	Penalty	~-5%



Compliance: Table "D, E, F"

Above and beyond minimum compliance "D", "E", "F"

<input type="checkbox"/> PE	These are listed as features that are providing "extra credit"; additional verification and understand what is being modeled if alternative systems and features need to be modeled due to software or code limitations.
<input type="checkbox"/> BI	These features are typically field verified. Please coordinate with general contractor

Project Name:	Winery	NRCC-PR-01-F	Page 7 of 21
Project Address:	Road Sonoma 95676	Calculation Date/Time:	10:50, Tue, Nov 24, 2015
Compliance Scope:	New/Complete	Input File Name:	Winery.cbcc.rtd

C. PRIORITY PLAN CHECK/ INSPECTION ITEMS (in order of highest to lowest TDV energy savings)	
1st	Space Cooling: Check envelope and mechanical
2nd	Indoor Lighting: Check lighting
3rd	Space Heat req: Check envelope and mechanical
4th	Pumps & Misc: Check mechanical
5th	Heat Rejection: Check envelope and mechanical
6th	Domestic Hot Water: Check mechanical
7th	Indoor Fans: Check envelope and mechanical

Compliance Margin By Energy Component (from Table B column 4)	
Space Cooling	_____
Indoor Lighting	_____
Space Heating	_____
Pumps & Misc	_____
Heat Rejection	_____
Domestic Hot Water	_____
Indoor Fans	_____

D. EXCEPTIONAL CONDITIONS
The building does not include service water heating. Verify that service water heating is not required and is not included in the design.
E. HERS VERIFICATION
This Section Does Not Apply
F. ADDITIONAL REMARKS
VRF system modeled as small separate split dx minimum efficiency fan coil units since software doesn't not allow for VRF systems to be modeled as designed.

“Additional Remarks” opportunity to provide clarity on code difficulties and establish communication.

D. EXCEPTIONAL CONDITIONS	✓
The building does not include service water heating. Verify that service water heating is not required and is not included in the design.	
E. HERS VERIFICATION	✓
This Section Does Not Apply	
F. ADDITIONAL REMARKS	✓
VRF system modeled as small separate split dx minimum efficiency fan coil units since software doesn't not allow for VRF systems to be modeled as designed.	



Compliance: Table "G"

Compliance Path and Documentation "G", "H"



NRCC: List of features are included in this compliance package (spate NRCC forms may be required by others for complete submittal)



NRCI: Installation certificates provided by installing contractors

NRCA: Acceptance certificates provided by ATT or contractor (as required)

Project Name:	Winery	NRCC-PRF-01-E	Page 3 of 21
Project Address:	Road 50, Roma 95026	Calculation Date/Time:	10:50, Tue, Nov 24, 2015
Compliance Scope:	New/Complete	Input File Name:	Winery_cbecc.rbd

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY			
Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project			
For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.			
Building Component	Compliance Path	Compliance Forms (required for submittal)	Location of Mandatory Notes on Plans
Envelope	<input checked="" type="checkbox"/> Performance	NRCC-PRF-ENV-DETAILS (section of the NRCC-PRF-01-E)	A1
	<input type="checkbox"/> Prescriptive	NRCC-ENV-01 / 02 / 03 / 04 / 05 / 06-E	
Mechanical	<input checked="" type="checkbox"/> Performance	NRCC-PRF-MCH-DETAILS (section of the NRCC-PRF-01-E)	M1
	<input type="checkbox"/> Prescriptive	NRCC-MCH-01 / 02 / 03 / 04 / 05 / 06 / 07-E	
	<input type="checkbox"/> NA		
	<input type="checkbox"/> Performance	NRCC-PRF-PLB-DETAILS (section of the NRCC-PRF-01-E)	

Where's the DHW?

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY			
Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project			
For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.			
Building Component	Compliance Path	Compliance Forms (required for submittal)	Location of Mandatory Notes on Plans
Envelope	<input checked="" type="checkbox"/> Performance	NRCC-PRF-ENV-DETAILS (section of the NRCC-PRF-01-E)	A1
	<input type="checkbox"/> Prescriptive	NRCC-ENV-01 / 02 / 03 / 04 / 05 / 06-E	
	<input type="checkbox"/> NA		
Mechanical	<input checked="" type="checkbox"/> Performance	NRCC-PRF-MCH-DETAILS (section of the NRCC-PRF-01-E)	M1
	<input type="checkbox"/> Prescriptive	NRCC-MCH-01 / 02 / 03 / 04 / 05 / 06 / 07-E	
	<input type="checkbox"/> NA		
Domestic Hot Water	<input type="checkbox"/> Performance	NRCC-PRF-PLB-DETAILS (section of the NRCC-PRF-01-E)	by others
	<input checked="" type="checkbox"/> Prescriptive	NRCC-PLB-01-E	
	<input type="checkbox"/> NA		
Lighting (Indoor Conditioned)	<input checked="" type="checkbox"/> Performance	NRCC-PRF-LTI-DETAILS (section of the NRCC-PRF-01-E)	L1
	<input type="checkbox"/> Prescriptive	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	
	<input type="checkbox"/> NA		



Compliance: Table "G"

Compliance Path and Documentation "G", "H"



NRCC: List of features are included in this compliance package (spate NRCC forms may be required by others for complete submittal)



NRCI: Installation certificates provided by installing contractors

NRCA: Acceptance certificates provided by ATT or contractor (as required)

Project Name:	Winery	NRCC-PRF-01-E	Page / of 2:
Project Address:	Road Serena 95175	Calculator's Date/Time:	20:59, Tue, Nov 24, 2015
Compliance Scope:	New/Co-Upgrade	Input File Name:	Winery-coecr.csb

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY			
The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project.			
Yes	NA	Prescriptive Requirement	Compliance Forms
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lighting (Sign) §140.8	NRCC-LTS-01-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E

Where is everything?
Prescriptive and mandatory forms are NOT integrated into NRCC-PRF

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY				G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY			
The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project.				The following building components may have mandatory requirements per Part 6. Indicate which are relevant to the project.			
Yes	NA	Prescriptive Requirement	Compliance Forms	Yes	NA	Mandatory Requirement	Compliance Forms
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Commissioning: §120.8 Simple Systems Complex Systems	NRCC-CXR-01 / 02 / 03 / 05-E NRCC-CXR-01 / 02 / 04 / 05-E
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Electrical: §130.5	NRCC-ELC-01-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lighting (Sign) §140.8	NRCC-LTS-01-E	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Solar Ready: §110.10	NRCC-SRA-01 / 02-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Covered Process: §120.6 Parking Garage Commercial Refrigeration Warehouse Refrigeration Compressed Air Process Boilers	NRCC-PRC-01-E NRCC-PRC-02-E NRCC-PRC-05-E NRCC-PRC-06/07/08-E NRCC-PRC-10-E NRCC-PRC-11-E



Compliance: Table "H"

Compliance Path and Documentation "G", "H"



Provide all forms applicable (Performance / Prescriptive / Mandatory)

Envelope; Mechanical; Indoor Lighting (conditioned); Indoor Lighting (unconditioned); Outdoor Lighting; Sign Lighting; Plumbing (DHW and Solar Hot Water); Commissioning; Electrical; Covered Process

NRCI: Installation certificates provided by installing contractors

NRCA: Acceptance certificates provided by ATT or contractor (as required)

NRCV: HERS forms

Project Name:	Winery	NRC-PRF-01-E	Page 5 of 21
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Compliance Scope:	NewComplete	Input File Name:	Winery cbccc.cbd

Building Component	Compliance Forms (required for submittal)	Confirmed	
		Pass	Fail
Envelope	<input checked="" type="checkbox"/> NRCI-ENV-01-E - For all buildings	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-ENV-02-F- NFRC label verification for fenestration	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCI-MCH-01-E - For all buildings with Mechanical Systems	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-MCH-02-A- Outdoor Air	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-MCH-03-A - Constant Volume Single Zone HVAC	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-04-H- Air Distribution Duct Leakage	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-05-A- Air Economizer Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-06-A- Demand Control Ventilation	<input type="checkbox"/>	<input type="checkbox"/>

	NRC-PRF-01-F	Page 6 of 21
	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
	Input File Name:	Winery cbccc.cbd

Building Component	Compliance Forms (required for submittal)	Confirmed	
		Pass	Fail
Envelope	<input type="checkbox"/> NRCA-ENV-02-F- NFRC label verification for fenestration	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCI-MCH-01-E - For all buildings with Mechanical Systems	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-02-A- Outdoor Air	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-03-A - Constant Volume Single Zone HVAC	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-04-H- Air Distribution Duct Leakage	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-05-A- Air Economizer Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-06-A- Demand Control Ventilation	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-07-A - Supply Fan Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-08-A- Valve Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-09-A - Supply Water Temp Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-10-A- Hydronic System Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-11-A - Auto Demand Shed Controls	<input type="checkbox"/>	<input type="checkbox"/>

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	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
	Input File Name:	Winery cbccc.cbd

Building Component	Compliance Forms (required for submittal)	Confirmed	
		Pass	Fail
Envelope	<input type="checkbox"/> NRCA-ENV-02-F- NFRC label verification for fenestration	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCI-MCH-01-E - For all buildings with Mechanical Systems	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-02-A- Outdoor Air	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-03-A - Constant Volume Single Zone HVAC	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-04-H- Air Distribution Duct Leakage	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-05-A- Air Economizer Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-06-A- Demand Control Ventilation	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-07-A - Supply Fan Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-08-A- Valve Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-09-A - Supply Water Temp Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-10-A- Hydronic System Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-11-A - Auto Demand Shed Controls	<input type="checkbox"/>	<input type="checkbox"/>

Envelope	<input checked="" type="checkbox"/> NRCI-ENV-01-E - For all buildings	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-ENV-02-F- NFRC label verification for fenestration	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCI-MCH-01-E - For all buildings with Mechanical Systems	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-MCH-02-A- Outdoor Air	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-MCH-03-A - Constant Volume Single Zone HVAC	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-04-H- Air Distribution Duct Leakage	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical	<input type="checkbox"/> NRCA-MCH-05-A- Air Economizer Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-MCH-06-A- Demand Control Ventilation	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-07-A - Supply Fan Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-08-A- Valve Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-09-A - Supply Water Temp Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-10-A- Hydronic System Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-MCH-11-A - Auto Demand Shed Controls	<input type="checkbox"/>	<input type="checkbox"/>



Envelope

Envelope

- ✦ Fenestration "I", "J"
- ✦ Opaque Assemblies "K"
- ✦ Roofing "L"

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Project Name:	Winery	NRCC-PRF-01-E	Page 7 of 21
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Compliance Scope:	New/Complete	Input File Name:	Winery.cbccc.cibid

H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCC/NRCA/NRCCV) - Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.		Confirmed	
Building Component	Compliance Forms (required for submittal)	Pass	Fail
Covered Process	<input checked="" type="checkbox"/> NRCA-PRC-01-E Refrigerated Warehouse	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-PRC-01-F Compressed Air Systems	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-PRC-02-F Kitchen Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-PRC-03-F Garage Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-PRC-04-F Refrigerated Warehouse- Evaporator Fan Motor Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-PRC-05-F Refrigerated Warehouse- Evaporative Condenser Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-PRC-06-F Refrigerated Warehouse- Air Cooled Condenser Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> NRCA-PRC-07-F Refrigerated Warehouse- Variable Speed Compressor	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> NRCA-PRC-08-F Electrical Resistance Underslab Heating System	<input type="checkbox"/>	<input type="checkbox"/>

I. ENVELOPE GENERAL INFORMATION (See NRCC-PRF-ENV-DETAILS for more information)				Confirmed	
				Pass	Fail
1.	Total Conditioned Floor Area	3,893 ft ²	5.	Number of Floors Above Grade	2
2.	Total Unconditioned Floor Area	5,077 ft ²	6.	Number of Floors Below Grade	0
3.	Addition Conditioned Floor Area	0 ft ²			
4.	Addition Unconditioned Floor Area	0 ft ²			
7. Opaque Surfaces & Orientation		8. Total Gross Surface Area		9. Total Fenestration Area	
North Wall		1,155 ft ²		210 ft ²	18.2%
East Wall		523 ft ²		63 ft ²	12.0%
South Wall		14 ft ²		0 ft ²	00.0%
West Wall		685 ft ²		50 ft ²	07.3%
	Total	2,380 ft ²		323 ft ²	13.6%
Roof		2,899 ft ²		0 ft ²	00.0%

Project Name:	Winery	NRCC-PRF-01-E	Page 11 of 21
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Compliance Scope:	New/Complete	Input File Name:	Winery.cbccc.cibid

NRCC-PRF-ENV-DETAILS -SECTION START-

A. OPAQUE SURFACE ASSEMBLY DETAILS				Confirmed	
1.	2.	3.	4.	Pass	Fail
Surface Name	Surface Type	Description of Assembly Layers	Notes		
SBS-7-12-WR-1610	ExteriorWall	SBS-7-12-WR-1610 - 4.122' H		<input type="checkbox"/>	<input type="checkbox"/>
8 Concrete Wall to Insul3	ExteriorWall	Concrete - 8" by 12" - 8 in. A - 1/2" Insul - 1/2" - 8 in. - 8 in.		<input type="checkbox"/>	<input type="checkbox"/>
8-12-WR-1610	InteriorWall	Architect - 8 in. - 12 in. Wood per meet - 8 in. - 12 in. Physical - 12 in. - 12 in.		<input type="checkbox"/>	<input type="checkbox"/>
8-12-WR-1610-2	Roof	A - 1/2" Insul - 1/2" - 8 in. - 8 in. - 8 in. Wood frames - 2" - 12 in. - 8 in. - 8 in. Opposite - 12 in. - 12 in.		<input type="checkbox"/>	<input type="checkbox"/>
SBS-7-12-WR-1610	InteriorWall	SBS-7-12-WR-1610 - 4.122' H		<input type="checkbox"/>	<input type="checkbox"/>
8-12-WR-1610-2	Cellar	Architect - 8 in. - 12 in. Wood per meet - 8 in. - 12 in. Physical - 12 in. - 12 in.		<input type="checkbox"/>	<input type="checkbox"/>
7-12-WR-124 wood 1658	Roof	Wood frames - 2" - 12 in. - 8 in. - 8 in. - 8 in. Wood frames - 2" - 12 in. - 8 in. - 8 in. - 8 in. Opposite - 12 in. - 12 in.		<input type="checkbox"/>	<input type="checkbox"/>
SBS-9-12-WR-1772	Roof	SBS-9-12-WR-1772 - 10.624' H		<input type="checkbox"/>	<input type="checkbox"/>
1-12-1-Cur81	InteriorFloor	A - 1/2" Insul - 1/2" - 8 in. - 8 in. - 8 in. Physical - 12 in. - 12 in. Carpet - 3/8 in.		<input type="checkbox"/>	<input type="checkbox"/>

B. OVERLAPPING DETAILS (Adapted from NRCC-ENV-02-E)

This Section Does Not Apply



Envelope: Table "I"

Envelope "I", "J", "K", "L" - Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/> PE	Verify fenestration per orientation (WWR) and skylights; fenestration type; overhangs and sidefins
<input type="checkbox"/> PE	Verify opaque assemblies (concentrate on frame type and insulation features); cool roof properties for roof (if applicable)
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Has fenestration and insulation been provided as documented?

Project Name:	Winery	NRCC-PRF-01-E	Page 7 of 21
Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015

7. Opaque Surfaces & Orientation	8. Total Gross Surface Area	9. Total Fenestration Area	10. Window to Wall Ratio		
North Wall	1,155 ft ²	210 ft ²	18.2%	<input checked="" type="checkbox"/>	<input type="checkbox"/>
East Wall	523 ft ²	63 ft ²	12.0%	<input type="checkbox"/>	<input type="checkbox"/>
South Wall	14 ft ²	0 ft ²	00.0%	<input type="checkbox"/>	<input type="checkbox"/>
West Wall	688 ft ²	50 ft ²	07.3%	<input type="checkbox"/>	<input type="checkbox"/>
Total	2,380 ft ²	323 ft ²	13.6%	<input type="checkbox"/>	<input type="checkbox"/>
Roof	2,899 ft ²	0 ft ²	00.0%	<input type="checkbox"/>	<input type="checkbox"/>

I. ENVELOPE GENERAL INFORMATION (See NRCC-PRF-ENV-DETAILS for more information)						
					seq	req
1.	Total Conditioned Floor Area	3,893 ft ²	5.	Number of Floors Above Grade	2	Confirmed
2.	Total Unconditioned Floor Area	5,077 ft ²	6.	Number of Floors Below Grade	0	
3.	Addition Conditioned Floor Area	0 ft ²				
4.	Addition Unconditioned Floor Area	0 ft ²				
7. Opaque Surfaces & Orientation						
	8. Total Gross Surface Area	9. Total Fenestration Area	10. Window to Wall Ratio		seq	req
North Wall	1,155 ft ²	210 ft ²	18.2%	<input type="checkbox"/>	<input type="checkbox"/>	
East Wall	523 ft ²	63 ft ²	12.0%	<input type="checkbox"/>	<input type="checkbox"/>	
South Wall	14 ft ²	0 ft ²	00.0%	<input type="checkbox"/>	<input type="checkbox"/>	
West Wall	688 ft ²	50 ft ²	07.3%	<input type="checkbox"/>	<input type="checkbox"/>	
Total	2,380 ft ²	323 ft ²	13.6%	<input type="checkbox"/>	<input type="checkbox"/>	
Roof	2,899 ft ²	0 ft ²	00.0%	<input type="checkbox"/>	<input type="checkbox"/>	



Envelope: Table "J"

Envelope "I", "J", "K", "L" - Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/> PE	Verify fenestration per orientation (WWR) and skylights; fenestration type; overhangs and sidefins
<input type="checkbox"/> PE	Verify opaque assemblies (concentrate on frame type and insulation features); cool roof properties for roof (if applicable)
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Has fenestration and insulation been provided as documented?

B. OVERHANG DETAILS (Adapted from NRCC-ENV-02-E)
 This Section Does Not Apply

Overhangs and sidefin information (if applicable) can be found after signatures.

Project Name:	Winery	NRCC-PRF-01-E	Page 8 of 21
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Compliance Scope:	New/Complete	Input File Name:	Winery checc.cbd

J. FENESTRATION ASSEMBLY SUMMARY								§ 110.6		Confirmed	
1.	2.	3.	4.	5.	6.	7.	8.	9.	Pass	Fail	
Fenestration Assembly Name / Tag or I.D.	Fenestration Type	Certification Method ¹	Assembly Method	Area ft ²	Overall U-factor	Overall SHGC	Overall VT	Status ²			
COG: DI SolarBan 60 Al w/TB Frch	VerticalFenestration	COGEquations	SiteBuilt	42	0.45	0.42	0.26	N	<input type="checkbox"/>	<input type="checkbox"/>	
COG: DI SolarBan 60 Al w/TB Csm	VerticalFenestration	COGEquations	SiteBuilt	281	0.45	0.42	0.34	N	<input type="checkbox"/>	<input type="checkbox"/>	

¹ Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Site-built fenestration less than 1,000 ft², or more than or equal to 1,000 ft² see Reference Nonresidential Appendix NA6.
² Status: N - New, A - Altered, E - Existing

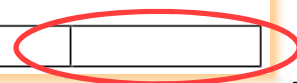
K. OPAQUE SURFACE ASSEMBLY SUMMARY								§ 120.7/ § 140.3		Confirmed	
1.	2.	3.	4.	5.	6.	7.	8.	Pass	Fail		
Surface Name	Surface Type	Area (ft ²)	Framing Type	Cavity Insulation	Continuous Insulation	U-Factor / F-Factor / CFactor	Status				
COG: DI SolarBan 60 Al w/TB Frch	Fenestration	42	NA	0	NA	1.0	N	<input type="checkbox"/>	<input type="checkbox"/>		

J. FENESTRATION ASSEMBLY SUMMARY								§ 110.6		Confirmed	
1.	2.	3.	4.	5.	6.	7.	8.	9.	Pass	Fail	
Fenestration Assembly Name / Tag or I.D.	Fenestration Type	Certification Method ¹	Assembly Method	Area ft ²	Overall U-factor	Overall SHGC	Overall VT	Status ²			
COG: DI SolarBan 60 Al w/TB Frch	VerticalFenestration	COGEquations	SiteBuilt	42	0.45	0.42	0.26	N	<input type="checkbox"/>	<input type="checkbox"/>	
COG: DI SolarBan 60 Al w/TB Csm	VerticalFenestration	COGEquations	SiteBuilt	281	0.45	0.42	0.34	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

¹ Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Site-built fenestration less than 1,000 ft², or more than or equal to 1,000 ft² see Reference Nonresidential Appendix NA6.

² Status: N - New, A - Altered, E - Existing

Taking compliance credit for fenestration shading devices? (if "Yes", see NRCC-PRF-ENV-DETAILS for more information)





Envelope: Table "K"

Envelope "I", "J", "K", "L" - Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/> PE	Verify fenestration per orientation (WWR) and skylights; fenestration type; overhangs and sidefins
<input type="checkbox"/> PE	Verify opaque assemblies (concentrate on frame type and insulation features); cool roof properties for roof (if applicable)
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Has fenestration and insulation been provided as documented?

A. OPAQUE SURFACE ASSEMBLY DETAILS				Confirmed	
1.	2.	3.	4.	Pass	Fail
Surface Name	Surface Type	Description of Assembly Layers	Notes		
SIPS- 7.5 w/ R-3010	ExteriorWall	SIPS - R14 - OSB Spline - 4 1/2 in.		<input type="checkbox"/>	<input type="checkbox"/>

Assembly details can be found after signatures.

Project Name:	Winery	NRCC-PRF-01-E	Page 8 of 21
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Compliance Scope:	NewComplete	Input File Name:	Winery checc.cbd

J. FENESTRATION ASSEMBLY SUMMARY									§ 110.6		Confirmed	
1.	2.	3.	4.	5.	6.	7.	8.	9.	Pass	Fail		
Fenestration Assembly Name / Tag or I.D.	Fenestration Type	Certification Method ¹	Assembly Method	Area ft ²	Overall U-factor	Overall SHGC	Overall VT	Shading ²				
COG: DI SolarBan 60 Al w/TB Frch	VerticalFenestration	COGEquations	SiteBuilt	.42	0.45	0.42	0.26	N	<input type="checkbox"/>	<input type="checkbox"/>		
COG: DI SolarBan 60 Al w/TB Csm	VerticalFenestration	COGEquations	SiteBuilt	281	0.45	0.42	0.34	N	<input type="checkbox"/>	<input type="checkbox"/>		

¹ Newly installed fenestration shall have a certified NRC Label Certificate or use the CBC default values found in Table 110.6.4 and Table 110.6.5. Site-built fenestration less than 1,000 ft² or more than or equal to 2,000 ft² see reference Nonresidential Appendix NAB.

² Values: N = New, A = Altered, E = Existing

Taking compliance credit for fenestration shading devices? (if "Yes", see NRCC-PRF-ENV-DETAILS for more information)

K. OPAQUE SURFACE ASSEMBLY SUMMARY		§ 120.7/ § 140.3		Confirmed	
1.	2.	3.	4.	5.	6.
Surface Name	Surface Type	Area (ft ²)	Framing Type	Cavity R-Value	Continuous R-Value
SIPS- 7.5 w/ R-3010	ExteriorWall	2276	NA	0	NA
8 Concrete Wall no insu13	ExteriorWall	104	NA	0	NA
Slab On Grade19	UndergroundFloor	12521	NA	0	NA
R-30 Rafter Roof 2x10 221	Roof	2343	Wood	30	NA
SIPS- 7.5 w/ R-30101	InteriorWall	1836	NA	0	NA
R-19 Rafter Roof 2x8 1628	Ceiling	556	Wood	19	NA
R-13 Wall 2x4 wood 1668	InteriorWall	4500	Wood	13	NA
SIPS- 9.5 w/R-3778	Roof	556	NA	0	NA
Interior floor81	InteriorFloor	1449	NA	0	NA

K. OPAQUE SURFACE ASSEMBLY SUMMARY								§ 120.7/ § 140.3		Confirmed	
1.	2.	3.	4.	5.	6.	7.	8.	Pass	Fail		
Surface Name	Surface Type	Area (ft ²)	Framing Type	Cavity R-Value	Continuous R-Value	U-Factor / F-Factor / C-Factor	Status ¹				
SIPS- 7.5 w/ R-3010	ExteriorWall	2276	NA	0	NA	U-Factor: 0.064	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
8 Concrete Wall no insu13	ExteriorWall	104	NA	0	NA	U-Factor: 0.424	N	<input type="checkbox"/>	<input type="checkbox"/>		
Slab On Grade19	UndergroundFloor	12521	NA	0	NA	F-Factor: 0.730	N	<input type="checkbox"/>	<input type="checkbox"/>		
R-30 Rafter Roof 2x10 221	Roof	2343	Wood	30	NA	U-Factor: 0.034	N	<input type="checkbox"/>	<input type="checkbox"/>		
SIPS- 7.5 w/ R-30101	InteriorWall	1836	NA	0	NA	U-Factor: 0.062	N	<input type="checkbox"/>	<input type="checkbox"/>		
R-19 Rafter Roof 2x8 1628	Ceiling	556	Wood	19	NA	U-Factor: 0.048	N	<input type="checkbox"/>	<input type="checkbox"/>		
R-13 Wall 2x4 wood 1668	InteriorWall	4500	Wood	13	NA	U-Factor: 0.095	N	<input type="checkbox"/>	<input type="checkbox"/>		
SIPS- 9.5 w/R-3778	Roof	556	NA	0	NA	U-Factor: 0.029	N	<input type="checkbox"/>	<input type="checkbox"/>		
Interior floor81	InteriorFloor	1449	NA	0	NA	U-Factor: 0.183	N	<input type="checkbox"/>	<input type="checkbox"/>		

L. ROOFING PRODUCT SUMMARY	
1.	2.
Product Type	Prod
R-30 Rafter Roof 2x10 221	

CA Building Energy Efficiency Standards - 2013 Nonresidential

¹ Status: N = New, A = Altered, E = Existing



Envelope: Table "L"

Envelope "I", "J", "K", "L" - Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/> PE	Verify fenestration per orientation (WWR) and skylights; fenestration type; overhangs and sidefins
<input type="checkbox"/> PE	Verify opaque assemblies (concentrate on frame type and insulation features); cool roof properties for roof (if applicable)
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Has fenestration and insulation been provided as documented?

Project Name:	Winery	NRCC-PRF-01-E	Page 8 of 21
Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
Compliance Scope:	NewComplete	Input File Name:	Winery checc.cbd

I. FENESTRATION ASSEMBLY SUMMARY								§ 110.6			Confirmed	
1.	2.	3.	4.	5.	6.	7.	8.	9.	Pass	Fail		
Fenestration Assembly Name / Tag or I.D.	Fenestration Type	Certification Method ¹	Assembly Method	Area ft ²	Overall U-factor	Overall SHGC	Overall VT	Shading ²				
COG: DI SolarBan 60 Al w/TB Frch	VerticalFenestration	COGEquations	SiteBuilt	.42	0.45	0.42	0.26	N	<input type="checkbox"/>	<input type="checkbox"/>		
COG: DI SolarBan 60 Al w/TB Csm	VerticalFenestration	COGEquations	SiteBuilt	281	0.45	0.42	0.34	N	<input type="checkbox"/>	<input type="checkbox"/>		

¹ Newly installed fenestration shall have a certified NRC Label Certificate or use the CBC default values found in Table 110.6-4 and Table 110.6-8. Site-built fenestration less than 1,000 ft² or more than or equal to 2,000 ft² see reference Nonresidential Appendix NAB.

² Values: N = None, A = Awnings, F = Foliage

Testing and performance credits for fenestration shading devices? (If "Yes", see NRCC-PRF-ENV-DCEVES for more information)

L. ROOFING PRODUCT SUMMARY							§ 140.3		Confirmed	
1.	2.	3.	4.	5.	6.	7.	Pass	Fail		
Product Type	Product ≥25 lb ft ²	Aged Solar Reflectance	Thermal Emittance	SRI	Cool Roof Credit	CRRC Product ID Number				
R-30 Rafter Roof 2x10 221	No	0.08	0.75	NA	No	NA	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

SIPS-9.5 w/FI-3778	Roof	556	NA	0	NA	U-Factor: 0.029	N	<input type="checkbox"/>	<input type="checkbox"/>
Interior floor/BI	Interior Floor	1,349	NA	0	NA	U-Factor: 0.183	N	<input type="checkbox"/>	<input type="checkbox"/>

¹ Units: N = None, A = Awnings, E = Eaves

L. ROOFING PRODUCT SUMMARY							§ 140.3		Confirmed	
1.	2.	3.	4.	5.	6.	7.	Pass	Fail		
Product Type	Product ≥25 lb ft ²	Aged Solar Reflectance	Thermal Emittance	SRI	Cool Roof Credit	CRRC Product ID Number				
R-30 Rafter Roof 2x10 221	No	0.08	0.75	NA	No	NA	<input type="checkbox"/>	<input type="checkbox"/>		



Mechanical/Covered Process

Mechanical/Covered Process

- ◆ Equipment (Dry and Wet) "M"
- ◆ Economizers and Fans "N"
- ◆ Controls and Distribution "O", "P"

Project Name:	Winery	NRCC-PRF-01-E	Page 10 of 21
Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
Compliance Scope:	New/Complete	Input File Name:	Winery.cbcc.jobd

N. ECONOMIZER & FAN SYSTEMS SUMMARY ¹													§ 140.4		Confirmed	
1. Equip Name	2. Outside Air		3. Supply Fan				4. Return Fan				5. Economizer Type (if present)	seq	log	seq	log	
	CFM	HP	BHP	TSP (inches WC)	Control	CFM	HP	BHP	TSP (inches WC)	Control						
FC-31	603	1095	0.800	0.800	2.32	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	<input type="checkbox"/>	<input type="checkbox"/>		
FC-429	151	500	0.400	0.400	2.34	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	<input type="checkbox"/>	<input type="checkbox"/>		
FC-154	25	225	0.100	0.100	1.41	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	<input type="checkbox"/>	<input type="checkbox"/>		
FC-261	179	360	0.200	0.200	1.67	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	<input type="checkbox"/>	<input type="checkbox"/>		
FC-569	144	620	0.500	0.500	2.36	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	<input type="checkbox"/>	<input type="checkbox"/>		

¹ Mechanical ventilation calculations and airflow rates are based on the NRCC-PRF-01-E-2015-02-01-01 standard.

O. EQUIPMENT CONTROLS				§ 120.2		Confirmed	
1. Equip Name	2. Equip Type	3. Controls		seq	log	seq	log
FC-31	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control		<input type="checkbox"/>	<input type="checkbox"/>		
FC-429	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control		<input type="checkbox"/>	<input type="checkbox"/>		
FC-154	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control		<input type="checkbox"/>	<input type="checkbox"/>		
FC-261	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control		<input type="checkbox"/>	<input type="checkbox"/>		
FC-569	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control		<input type="checkbox"/>	<input type="checkbox"/>		



Mechanical: Table "M"

Mechanical "M", "N", "O", "P" - Primary features for compliance (further details are documented after the signatures, if applicable). DHW may not be included in performance and could be documented via prescriptive method

PE

Equipment type, heating and cooling output, minimum efficiency (dry – air systems / wet – hydronic systems); fan CFM and BHP (so important); economizers; controls; solar hot water (if applicable)

BI

Review NRCI & NRCA forms. Has equipment been tested per NRCA forms?

M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information)											§ 110.1 / § 110.2		
Dry System Equipment ¹ (Fan & Economizer info included below in Table N)											Confirmed		
1.	2.	3.	4.	5.	6.	7.	8.	9. Efficiency		10. Acceptance Testing Required? (Y/N) ₅	11. Status ⁶	Pass	Fail
								Cooling	Heating				
FC-31	SZHP (Split3Phase)	Simple	1	24	Yes	36	30	SEER-14.0	HSPF-8.0	Yes	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FC-429	SZHP (Split3Phase)	Simple	1	12	Yes	36	14	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>
FC-154	SZHP (Split3Phase)	Simple	1	3	Yes	36	6	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>
FC-261	SZHP (Split3Phase)	Simple	1	7	Yes	36	11	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>
FC-569	SZHP (Split3Phase)	Simple	1	10	Yes	36	16	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>

Wet System Equipment ²											Pumps				Confirmed	
12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Status ⁶	Pass	Fail	
																Eqp Name
FC-51	SZHP (Split3Phase)	Simple														
FC-436	CHW (CylinderPhase)	Simple														
FC-154	SZHP (Split3Phase)	Simple														
FC-261	SZHP (Split3Phase)	Simple														
FC-569	SZHP (Split3Phase)	Simple	1	10	Yes	36	16	SEER-14.0	HSPF-8.0	Yes	N	<input type="checkbox"/>	<input type="checkbox"/>			

Project Name:	Winery
Project Address:	Road Sonoma 95476
Compliance Scope:	New/Complete

L. ROOFING PRODUCT SUMMARY	
1.	
Product Type	
SIPS-9.5 w/R-378	

M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information)

1.	2.	3.
Equip Name	Equip Type	System Type (Simple ³ or Complex ⁴)
FC-51	SZHP (Split3Phase)	Simple
FC-436	CHW (CylinderPhase)	Simple
FC-154	SZHP (Split3Phase)	Simple
FC-261	SZHP (Split3Phase)	Simple
FC-569	SZHP (Split3Phase)	Simple

¹ Dry System Equipment includes furnaces, air handling units, heat pumps, etc.
² Wet system equipment includes boilers, chillers, cooling towers, water heaters, etc.
³ Simple Systems must complete NRCC-CHK-02-E commissioning design review form
⁴ Complex Systems must complete NRCC-CHK-04-E commissioning design review form
⁵ A summary of which acceptance tests are applicable is provided in NRCC-PRF-MCH-DETAILS
⁶ Status: N = New, A = Altered, E = Existing

Discrepancy between modeled and designed equipment sizing? (if "Yes", see Table F, "Additional Remarks" for an explanation) No

Energy Pro changes the name by adding numbers to the end.



Mechanical: Table "N"

Mechanical "M", "N", "O", "P" - Primary features for compliance (further details are documented after the signatures, if applicable). DHW may not be included in performance and could be documented via prescriptive method

- PE Equipment type, heating and cooling output, minimum efficiency (dry – air systems / wet – hydronic systems); fan CFM and BHP (so important); economizers; controls; solar hot water (if applicable)
- BI Review NRCI & NRCA forms. Has equipment been tested per NRCA forms?

A. MECHANICAL VENTILATION AND REHEAT (Adapted from 2013-NRCC-MCH-03-E)																Confirmed		
1. DESIGN AIR FLOWS								2. VENTILATION (§ 120.1)								Pass	Fail	
CONDITIONED ZONE NAME	HEATING / COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft ²)	MIN. VENT PER AREA (CFM/ft ²)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)			DCV (Y/N)
1-Entry / Hall	FC-31	1,095	NA	NA	NA	NA	N	FC-31	1,205	0.50	80	7.5	603	603	NA	N	<input type="checkbox"/>	<input type="checkbox"/>

N. ECONOMIZER & FAN SYSTEMS SUMMARY ¹											\$ 140.4		Confirmed	
Equip Name	Outside Air			Return Fan						Economizer Type (if present)	Pass	Fail		
	CFM	CFM	HP	BHP	TSP (inch WC)	Control								
FC-31	603	1095	0.800	NA	NA	NA	NoEconomizer	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
FC-429	181	500	0.400	NA	NA	NA	NoEconomizer	<input type="checkbox"/>	<input type="checkbox"/>					
FC-154	25	225	0.100	NA	NA	NA	NoEconomizer	<input type="checkbox"/>	<input type="checkbox"/>					
FC-261	179	380	0.200	NA	NA	NA	NoEconomizer	<input type="checkbox"/>	<input type="checkbox"/>					
FC-569	144	620	0.500	0.500	2.56	ConstantVolume	NA	NA	NA	NoEconomizer	<input type="checkbox"/>	<input type="checkbox"/>		

Ventilation details can be found after signatures.

¹ Mechanical ventilation calculations and exhaust fans are included in the NRCC-PRF-MCH-DETAILS section



Mechanical: Table "O"

Mechanical "M", "N", "O", "P" - Primary features for compliance (further details are documented after the signatures, if applicable). DHW may not be included in performance and could be documented via prescriptive method

PE

Equipment type, heating and cooling output, minimum efficiency (dry – air systems / wet – hydronic systems); fan CFM and BHP (so important); economizers; controls; solar hot water (if applicable)

BI

Review NRCI & NRCA forms. Has equipment been tested per NRCA forms?

O. EQUIPMENT CONTROLS			§ 120.2	Confirmed	
1.	2.	3.	Pass	Fail	
Equip Name	Equip Type	Controls			
FC-31	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
FC-429	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	<input type="checkbox"/>	<input type="checkbox"/>	
FC-154	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	<input type="checkbox"/>	<input type="checkbox"/>	
FC-261	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	<input type="checkbox"/>	<input type="checkbox"/>	
FC-571	PVAV	No DCV Controls, DDC Controls Differential Drybulb Economizer Warmest Zone Supply Air Temp. Reset	<input type="checkbox"/>	<input type="checkbox"/>	

FC-31	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	<input type="checkbox"/>	<input type="checkbox"/>
FC-429	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	<input type="checkbox"/>	<input type="checkbox"/>
FC-154	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	<input type="checkbox"/>	<input type="checkbox"/>
FC-261	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	<input type="checkbox"/>	<input type="checkbox"/>
FC-569	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	<input type="checkbox"/>	<input type="checkbox"/>

What would it look like if it was a system that had controls?



Mechanical: Table "P"

Mechanical "M", "N", "O", "P" - Primary features for compliance (further details are documented after the signatures, if applicable). DHW may not be included in performance and could be documented via prescriptive method

PE

Equipment type, heating and cooling output, minimum efficiency (dry – air systems / wet – hydronic systems); fan CFM and BHP (so important); economizers; controls; solar hot water (if applicable)

BI

Review NRCI & NRCA forms. Has equipment been tested per NRCA forms?

Remember, digging deeper for details can be found after signatures.

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Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015	
Compliance Scope:	NewComplete	Input File Name:	Winery cbccc.cibd	
P. SYSTEM DISTRIBUTION SUMMARY		§ 120.4/ § 140.4(i)		
This Section Does Not Apply				
Does the Project Include Zonal Systems? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)			No	
Does the Project Include a Solar Hot Water System? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)			No	
Multifamily or Hotel/ Motel Occupancy? (if "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information)			No	
Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info) ¹			§ 140.6	
			Confirmed	
1. Occupancy Type ¹	2. Conditioned Floor Area ² (ft ²)	3. Installed Lighting Power (Watts)	4. Lighting Control Credits (Watts)	5. Additional (Custom) Allowance

P. SYSTEM DISTRIBUTION SUMMARY	§ 120.4/ § 140.4(i)
This Section Does Not Apply	
Does the Project Include Zonal Systems? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Does the Project Include a Solar Hot Water System? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Multifamily or Hotel/ Motel Occupancy? (if "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information)	No

¹ See NRCC-LTI-01-E for unconditioned spaces
² Lighting information for existing spaces modeled is not included in this table



Covered Process: Table "S"

Covered Process "S" (features that may be modeled via the performance method)	
<input type="checkbox"/> PE	Equipment type, features and controls
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Has equipment been tested per NRCA forms?

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES	§ 140.9
This Section Does Not Apply	
S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS	§ 140.9
This Section Does Not Apply	
S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS	§ 140.9
This Section Does Not Apply	
S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS	§ 140.9
This Section Does Not Apply	

Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, f32T8, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined		Total Number Luminaires	Installed Watts	Pass	Fail
			CEC Default from NAB	According to §130.6(c)				
P	(2) 20w Compact Fluorescent 2D Elec	26	Yes	No	10	260	<input type="checkbox"/>	<input type="checkbox"/>
Track	45w per ft. Track Light	45	Yes	No	20	900	<input type="checkbox"/>	<input type="checkbox"/>
2x4	(2) 4 ft Fluorescent T8 Energy Savings Elec	54	Yes	No	47	2,538	<input type="checkbox"/>	<input type="checkbox"/>

If lighting power densities were used in the compliance model, building requirements will need to track appropriate values for luminaires. See table below.

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES	§ 140.9
This Section Does Not Apply	
S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS	§ 140.9
This Section Does Not Apply	
S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS	§ 140.9
This Section Does Not Apply	
S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS	§ 140.9
This Section Does Not Apply	

T. UNMET LOAD HOURS				
Thermal Zone Name	Cooling Unmet Load Hour Limit for Thermal Zone	Proposed Cooling Unmet Load Hours	Heating Unmet Load Hour Limit for Thermal Zone	Proposed Heating Unmet Load Hours
2 -1st Floor Offices	150	3733.25	150	0
3-Lab	150	2735	150	0
4-Conference Room	150	742.75	150	0
5-2nd Floor Offices	150	360.25	150	0

These are covered process features that can be traded in performance model.



Unmet Hours: Table "T"

Unmet Load Hours "T"

PE

This is not a code requirement at this time, but will be for the 2016 code.

T. UNMET LOAD HOURS				
Thermal Zone Name	Cooling Unmet Load Hour Limit for Thermal Zone	Proposed Cooling Unmet Load Hours	Heating Unmet Load Hour Limit for Thermal Zone	Proposed Heating Unmet Load Hours
2-1st Floor Offices	150	3733.25	150	0
3-Lab	150	2735	150	0
4-Conference Room	150	742.75	150	0
5-2nd Floor Offices	150	360.25	150	0

Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, E3218, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined		Total Number Luminaires	Installed Watts	Confirmed	
			CEC Default from NAB	According to §130.6(c)			Pass	Fail
P	(2) 20w Compact Fluorescent 2D Elec	20	Yes	No	10	200	<input type="checkbox"/>	<input type="checkbox"/>
Track	45w per ft. Track Light	45	Yes	No	20	900	<input type="checkbox"/>	<input type="checkbox"/>
2x4	(2) 4 ft Fluorescent T8 Energy Savings Elec	54	Yes	No	47	2,538	<input type="checkbox"/>	<input type="checkbox"/>

If lighting power densities were used in the compliance model, building requirements will need to track prescriptive forms for luminaire schedule items.

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES	§ 140.9
This Section Does Not Apply	

S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS	§ 140.9
This Section Does Not Apply	

S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS	§ 140.9
This Section Does Not Apply	

S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS	§ 140.9
This Section Does Not Apply	

Thermal Zone Name	Cooling Unmet Load Hour Limit for Thermal Zone	Proposed Cooling Unmet Load Hours	Heating Unmet Load Hour Limit for Thermal Zone	Proposed Heating Unmet Load Hours
2-1st Floor Offices	150	3733.25	150	0
3-Lab	150	2735	150	0
4-Conference Room	150	742.75	150	0
5-2nd Floor Offices	150	360.25	150	0

Currently this is only to warn the Mechanical Engineer, next code cycle it will need to be enforced.



Lighting

Lighting

- ◆ Occupancy of Room
- ◆ Light type, wattage and # of fixtures
- ◆ Controls

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Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
Compliance Scope:	NewComplete	Input File Name:	Winery.cbccc.cbd

P. SYSTEM DISTRIBUTION SUMMARY § 120.4/ § 140.4(i)

This Section Does Not Apply	
Does the Project Include Zonal Systems? (If "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Does the Project Include a Solar Hot Water System? (If "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Multifamily or Hotel/ Motel Occupancy? (If "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information)	No

Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info)¹ § 140.6

1. Occupancy Type ¹	2. Conditioned Floor Area ² (ft ²)	3. Installed Lighting Power (Watts)	4. Lighting Control Credits (Watts)	5. Additional (Custom) Allowance		Pass	Fail
				Area Category Footnotes (Watts)	Tailored Method (Watts)		
Lobby, Main Entry	1,205	1,700	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Office (Greater than 250 square feet in floor area)	1,208	594	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Office (250 square feet in floor area or less)	1,020	972	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Convention, Conference, Multipurpose and Meeting Center Areas	358	432	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Commercial and Industrial Storage Areas (conditioned or unconditioned)	102	81	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Building Totals:	3,893	3,759		0			

¹ See table 140.6-C
² See NRCC LTI-01-E for unconditioned spaces
³ Lighting information for existing spaces modeled is not included in the table

Project Name:	Winery	NRCC-PRF-01-E	Page 22 of 21
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Compliance Scope:	NewComplete	Input File Name:	Winery.cbccc.cbd

Project Name:	Winery	NRCC-PRF-01-E	Page 20 of 21
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Project Name:	Winery	NRCC-PRF-01-E	Page 19 of 21
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Compliance Scope:	NewComplete	Input File Name:	Winery.cbccc.cbd

Project Name:	Winery	NRCC-PRF-01-E	Page 18 of 21
Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
Compliance Scope:	NewComplete	Input File Name:	Winery.cbccc.cbd

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS (Adapted from 2013-NRCC-MCH-01-E) § RAA

Declaration of Required Acceptance Certificates (NRCA) - Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify)

Test Description	# of units	MCH-01A through MCH-01K											Confirmed						
		MCH-01A	MCH-01B	MCH-01C	MCH-01D	MCH-01E	MCH-01F	MCH-01G	MCH-01H	MCH-01I	MCH-01J	MCH-01K	Pass	Fail					
Equipment Requiring Testing or Verification		Outdoor Air	Single-Zone Unitary	Air-Flow Paths	Economizer Controls	COV	Supply Air Flow	Variable Airflow	Supply/Airflow Control	Hyd. Controls	Auto Shutdown/Reset	TRV for Hot Water	TRV for Hot Water Zone	Direct Energy Storage HVAC	TES Systems	Outdoor Water Reset Controls	Outdoor Water Reset Controls	Pass	Fail
FC-33	2	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
FC-429	2	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
FC-154	2	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
FC-261	2	X	X	-	-	-	X	-	-	-	-	-	-	-	-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
FC-569	2	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<input type="checkbox"/>	<input type="checkbox"/>

NRCC-PRF-LTI-DETAILS - SECTION START

A. INDOOR CONDITIONED LIGHTING CONTROL CREDITS (Adapted from NRCC-LTI-02-E) § 140.6

Lighting Control credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)(2) and Table 140.6-A)

Location in Building	Occupancy Type (must meet requirements of table 140.6-A)	Type/Description of Lighting Control (i.e., partial on occupancy sensor, manual dimming, etc.)	# of Units	Control Credit Calculation			Control Credit Watts	If Acceptance Test Required	Confirmed
				Watts of Controlled Lighting	Power Adjustment Factor	Control Credit			
5-1-Entry /mail	Lobby, Main Entry	- none specified -	1	340	0.00	0	<input type="checkbox"/>	<input type="checkbox"/>	
5-1-Entry /mail	Lobby, Main Entry	- none specified -	1	900	0.00	0	<input type="checkbox"/>	<input type="checkbox"/>	
5-1-Entry /mail	Lobby, Main Entry	- none specified -	1	540	0.00	0	<input type="checkbox"/>	<input type="checkbox"/>	
5-2-1st Floor Offices	Office (Greater than 250 square feet in floor area)	- none specified -	1	324	0.00	0	<input type="checkbox"/>	<input type="checkbox"/>	



Lighting: Table "Q"

Indoor Lighting in conditioned spaces "Q", "R" (unconditioned lighting cannot be included in performance calculation)
Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/> PE	Occupancy of spaces (sets LPD budgets and control allowances)
<input type="checkbox"/> PE	Lighting type, number of fixtures, wattage associated with fixture; controls (mandatory and PAF)
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Have controls been tested by ATT with NRCA forms?

A. INDOOR CONDITIONED LIGHTING CONTROL CREDITS (Adapted from NRCC-LTI-02-E)							§ 140.6		
Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)				Control Credit Calculation			V If Acceptance Test Required	Confirmed	
Location in Building	Occupancy Type (must meet requirements of Table 140.6-A)	Type/Description of Lighting Control (i.e., partial on occupancy sensor, manual dimming, etc.)	# of Units	Watts of Controlled Lighting	Power Adjustment Factor	Control Credit Watts		Pass	Fail
S-1-Entry / Hall	Lobby, Main Entry	- none specified -	1	260	0.00	0	<input type="checkbox"/>	<input type="checkbox"/>	
S-1-Entry / Hall	Lobby, Main Entry	- none specified -	1	900	0.00	0	<input type="checkbox"/>	<input type="checkbox"/>	
S-1-Entry / Hall	Lobby, Main Entry	- none specified -	1	540	0.00	0	<input type="checkbox"/>	<input type="checkbox"/>	
S-2-1st Floor Offices	Office (Greater than 250 square feet in floor area)	- none specified -	1	324	0.00	0	<input type="checkbox"/>	<input type="checkbox"/>	

Occupancy sets LPD allowance and PAF credits.

Occupancy Type ¹	Conditioned Floor Area ² (ft ²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance	Pass	Fail
Lobby, Main Entry	1,205	1,700	0		<input type="checkbox"/>	<input type="checkbox"/>
Office (Greater than 250 square feet in floor area)	1,208	594	0		<input type="checkbox"/>	<input type="checkbox"/>
Office (250 square feet in floor area or less)	1,020	972	0		<input type="checkbox"/>	<input type="checkbox"/>
Convention, Conference, Multipurpose and Meeting Center Areas	358	432	0		<input type="checkbox"/>	<input type="checkbox"/>
Commercial and Industrial Storage Areas (conditioned or unconditioned)	102	61	0		<input type="checkbox"/>	<input type="checkbox"/>
Building Totals	3,893	3,759			<input checked="" type="checkbox"/>	<input type="checkbox"/>

Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info) ³						§ 140.6	
						Confirmed	
1. Occupancy Type ¹	2. Conditioned Floor Area ² (ft ²)	3. Installed Lighting Power (Watts)	4. Lighting Control Credits (Watts)	5. Additional (Custom) Allowance		Pass	Fail
				Area Category Footnotes (Watts)	Tailored Method (Watts)		
Lobby, Main Entry	1,205	1,700	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Office (Greater than 250 square feet in floor area)	1,208	594	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Office (250 square feet in floor area or less)	1,020	972	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Convention, Conference, Multipurpose and Meeting Center Areas	358	432	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Commercial and Industrial Storage Areas (conditioned or unconditioned)	102	61	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Building Totals:	3,893	3,759		0		<input checked="" type="checkbox"/>	<input type="checkbox"/>

¹ See Table 140.6-C
² See NRCC-LTI-01-E for unconditioned spaces
³ Lighting information for existing spaces modeled is not included in the table



Lighting – Table “Q” Tailored

Indoor Lighting in conditioned spaces “Q”, “R” (unconditioned lighting cannot be included in performance calculation)
Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/> PE	Occupancy of spaces (sets LPD budgets and control allowances)
<input type="checkbox"/> PE	Lighting type, number of fixtures, wattage associated with fixture; controls (mandatory and PAF)
<input checked="" type="checkbox"/> BI	Review NRCI & NRCA forms. Have controls been tested by ATT with NRCA forms?

E. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS (Adapted from NRCC-LTI-04-E)							§ 140.6(c) 3H	
Room Number	Primary Function Area	Illuminance Value (LUX)	Room Cavity Ratio (Table G)	Allowed LPD	Floor Area (ft ²)	Allowed Watts	Confirmed	
							Pass	Fail
NA	NA	NA	NA	NA	NA	NA	<input type="checkbox"/>	<input type="checkbox"/>

Note: Tailored Method for Special Function Areas is not currently implemented

C. TAILORED METHOD LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST (Adapted from NRCC-LTI-04-E)	§ 140.6
General lighting power (see Table D)	0
General lighting power from special function areas (see Table E)	NA
Additional “use it or lose it” (See Table G)	0
Total watts	0

D. GENERAL LIGHTING POWER (Adapted from NRCC-LTI-04-E)	§ 140.6-D
This Section Does Not Apply	

Room Width (ft)	Room Cavity Height (ft)	RCR	Confirmed	
			Pass	Fail
NA	NA	NA	<input type="checkbox"/>	<input type="checkbox"/>

G. ADDITIONAL “USE IT OR LOSE IT” (Adapted from NRCC-LTI-04-E)					Confirmed	
1.	2.	3.	4.	Allowed Watts	Pass	Fail
			Very Valuable Merchandise			

Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info) ³						§ 140.6	
1. Occupancy Type ¹	2. Conditioned Floor Area ² (ft ²)	3. Installed Lighting Power (Watts)	4. Lighting Control Credits (Watts)	5. Additional (Custom) Allowance		Confirmed	
				Area Category Footnotes (Watts)	Tailored Method (Watts)	Pass	Fail
Lobby, Main Entry	1,205	1,700	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Office (Greater than 250 square feet in floor area)	1,208	594	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Office (250 square feet in floor area or less)	1,020	972	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Convention, Conference, Multipurpose and Meeting Center Areas	358	432	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Commercial and Industrial Storage Areas (conditioned or unconditioned)	102	61	0	0	0	<input type="checkbox"/>	<input type="checkbox"/>
Building Totals:	3,893	3,759		0			

¹ See Table 140.6-C

² See NRCC-LTI-01-E for unconditioned spaces

³ Lighting information for existing spaces modeled is not included in the table



Lighting "R"

Indoor Lighting in conditioned spaces "Q", "R" (unconditioned lighting cannot be included in performance calculation)
Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/> PE	Occupancy of spaces (sets LPD budgets and control allowances)
<input type="checkbox"/> PE	Lighting type, number of fixtures, wattage associated with fixture; controls (mandatory and PAF)
<input type="checkbox"/> BI	Review NRCI & NRCA forms. Have controls been tested by ATT with NRCA forms?

LED lights cannot be found in NA8 and must be submitted as §130.0(c) "cutsheet"

Project Name:	Winery	NRCC-PRF-01-E	Page 12 of 21
Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
Compliance Scope:	New/Complete	Input File Name:	Winery cbccc.odd

R. INDOOR CONDITIONED LIGHTING SCHEDULE (Adapted from NRCC-LTI-01-E) ¹							§ 130.0	
Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft ² in offices)							Confirmed	
Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined		Total Number Luminaires	Installed Watts	Pass	Fail
			CEC Default from NA8	According to §130.0(c)				
P	(2) 10w Compact Fluorescent 2D Elec	26	Yes	No	10	260	<input type="checkbox"/>	<input type="checkbox"/>
Track	45w per ft Track Light	45	Yes	No	20	900	<input type="checkbox"/>	<input type="checkbox"/>
2x4	(2) 4 ft Fluorescent T8 Energy Savings Elec	54	Yes	No	47	2,538	<input type="checkbox"/>	<input type="checkbox"/>

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES	§ 140.9
This Section Does Not Apply	
S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS	§ 140.9
This Section Does Not Apply	

Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft ² in offices)		Installed Watts (Conditioned)					Confirmed	
Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined		Total Number Luminaires	Installed Watts	Pass	Fail
			CEC Default from NA8	According to §130.0(c)				
P	(2) 10w Compact Fluorescent 2D Elec	26	Yes	No	10	260	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Track	45w per ft Track Light	45	Yes	No	20	900	<input type="checkbox"/>	<input type="checkbox"/>
2x4	(2) 4 ft Fluorescent T8 Energy Savings Elec	54	Yes	No	47	2,538	<input type="checkbox"/>	<input type="checkbox"/>

¹If lighting power densities were used in the compliance model Building Departments will need to check associated forms for Luminaire Schedule details.



Signatures

✦ Documentation Author

- ✦ Who filled out the forms based on information provided (non liability signature and can be electronic)

Project Name:	Winery	NRCC-PRF-01-E	Page 14 of 21
Project Address:	Road Sonoma 95476	Calculation Date/Time:	10:59, Tue, Nov 24, 2015
Compliance Scope:	NewComplete	Input File Name:	Winery cbecc.cbd

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT § 10-103

I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Gina Rodda	Signature:
Company: Gabel Associates, LLC	Signature Date: 11/24/15
Address: 1818 Harmon St.	CEA Identification (if applicable):
City/State/Zip: Berkeley CA 94703	
Phone: (510) 428-0803 204	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:	
1	I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, mechanical engineer, electrical engineer, or I am a licensed architect.
2	I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537, 2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
	I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to

Responsible Mechanical Designer Name: N/A	Signature: NOT IN SCOPE	
Company:	Date Signed:	
Address:	Declaration Statement Type:	
City/State/Zip:	Title:	License #:
Phone:		

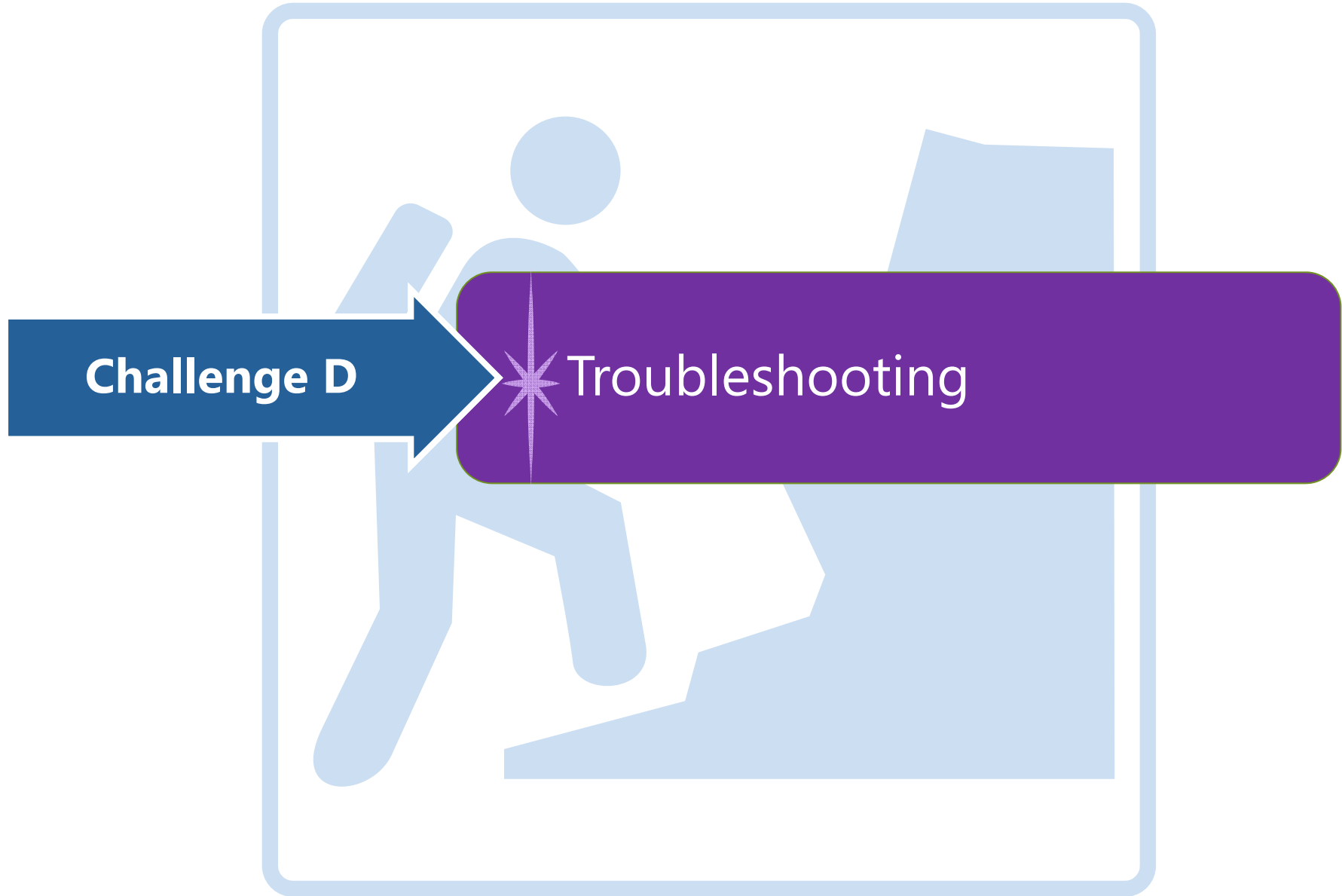
Address: Main St	Date Signed: 11/24/15
City/State/Zip: Happy Town CA 94572	Declaration Statement Type: 1
Phone:	Title: Lead License #: 11111
Responsible Mechanical Designer Name: - specify - Happy Architect	Signature:
Company: Architect	Date Signed: 11/24/15
Address: Main St	Declaration Statement Type: 1
City/State/Zip: Happy Town CA 94572	Title: Lead License #: 11111
Phone:	

✦ Designer(s)

- ✦ Who is taking responsibility for the design features (liability signature and should be wet signed)



Challenge D





Our Question To You



If you could wave your magic wand, performance compliance forms (NRCC-PRF) would include which features to make your job easier?

Everything that the previous PERF 1 Forms included, including the Bar Graph that used to reside on this sheet. It seems trite but the Architects have grown used to perusing that Color bar graph and they have commented on it's absence.

Better ability to generate reports on large building calcs.

I plan to read every entry/line on the form with plans and bld file open. I look for anything that seems in error, odd, or not what I was expecting.

Lots of coffee, and a brief period of weeping.

Tell me which forms are required on the plans



How to Get More Information

Troubleshooting

- ✦ Something Doesn't Make Sense
- ✦ Something Doesn't Match Plans or Install
- ✦ It Feels Like Something's Missing
- ✦ I Can't Find a Straight Answer
- ✦ It is Still Not Working

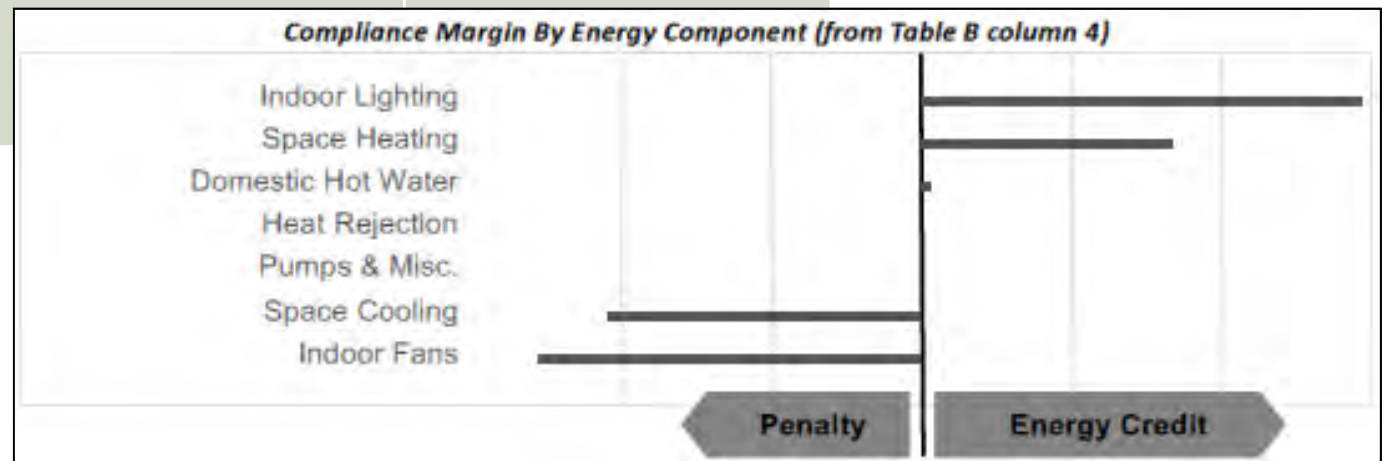
HELP?



Something Doesn't Make Sense



Review	Verify	Inspect/Install
<p>Look at prescriptive requirements for envelope and lighting</p> <p>Look at ACM for mechanical</p> <p>CBECC-Com beta version has report that lists baseline</p>	<p>Check "remarks" or "details" on NRCC-PRF-01 form</p> <p>Make a plan check comment</p> <p>Call the permit applicant</p>	<p>Check "remarks" or "details" on NRCC-PRF-01 form</p> <p>Ask for installer to explain</p> <p>Provide a field correction notice</p>





Something Doesn't Match Plans or Install

Project Name:	Wilmary	NRCC-PRF-01-E	Page 16 of 24
Project Address:	Road Sonoma 05476	Calculation Date/Time	10:13 Wed Nov 04 2015
Compliance Scope:	New/Complete	Input File Name:	ROOHE v6.7.xml

NRCC-PRF-ENV-DETAILS - SECTION START-

A. OPAQUE SURFACE ASSEMBLY DETAILS				Confirmed	
1.	2.	3.	4.	Y	N
Surface Name	Surface Type	Description of Assembly Layers	Notes		
SPS-7.5 w/ R-3012	ExteriorWall	SPS - R34 - OSB Spline - 4 1/2 in.		<input type="checkbox"/>	<input type="checkbox"/>
6 Concrete Wall no Insu15	ExteriorWall	Concrete - 140 R/H3 - 6 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more		<input type="checkbox"/>	<input type="checkbox"/>
Slab On Grade21	UndergroundFloor			<input type="checkbox"/>	<input type="checkbox"/>
R-30 Rafter Roof 2x10 213	Roof	Asphalt shingle - 3/4 in. Vapor permeable felt - 1/8 in. Rinsced - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Wood framed roof 24in. OC, 8.25in. R-30 Gypsum Board - 1/2 in.		<input type="checkbox"/>	<input type="checkbox"/>
SPS-7.5 w/ R-30121	InteriorWall	SPS - R34 - OSB Spline - 4 1/2 in.		<input type="checkbox"/>	<input type="checkbox"/>
R-10 Rafter Roof 2x8 1020	Ceiling	Asphalt shingle - 3/4 in. Vapor permeable felt - 1/8 in. Rinsced - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Wood framed roof 24in. OC, 7.25in. R-10 Gypsum Board - 1/2 in.		<input type="checkbox"/>	<input type="checkbox"/>
R-12 Wall 2x4 wood 1607	InteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Wood framed wall 16in. OC, 2.5in. R-12 Gypsum Board - 1/2 in.		<input type="checkbox"/>	<input type="checkbox"/>
SPS-4.5 w/ R-2776	Roof	SPS - R26 - Single Dr Spline - 10 1/4 in.		<input type="checkbox"/>	<input type="checkbox"/>
Interior floor79	InteriorFloor	Air - Cavity - Wall Roof Ceiling - 4 in. or more Rinsced - 1/2 in. Carpet - 3/4 in.		<input type="checkbox"/>	<input type="checkbox"/>
6 Concrete Wall no Insu151	InteriorWall	Concrete - 140 R/H3 - 6 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more		<input type="checkbox"/>	<input type="checkbox"/>

B. OVERHANG DETAILS (Adapted from NRCC-ENV-02-E)
This Section Does Not Apply

CA Building Energy Efficiency Standards-2013 Nonresidential Compliance Report Version: NRCC-PRF-01-E-10191015-760 Report Generated on: 2015-11-04 10:16:47

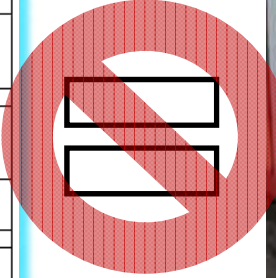


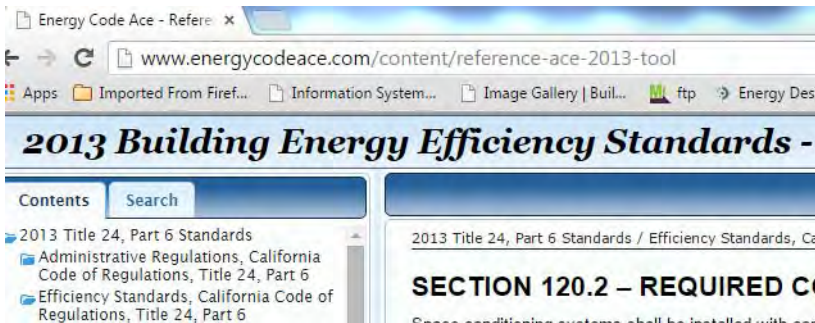
Photo Credit: Environmental Protection Agency

- ✓ Check "remarks" on NRCC-PRF-01-E form
- ✓ Is it "better" than what is modeled?
- ✓ Make a plan check comment or field correction notice
- ✓ Request report be revised to include altered features to verify compliance



I Feel Like Something's Missing

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY			
The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project.		The following building components may have mandatory requirements per Part 6. Indicate which are relevant to the project.	
Yes	NA	Prescriptive Requirement	Compliance Forms
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lighting (Sign) §140.8	NRCC-LTS-01-E
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E



Title 24 Part 6 Nonresidential Triggers Sheet						
Small Commercial HVAC Alterations						
Acceptance Tests: Packaged Units — Single-zone, Constant Air Volume (CAV) — and Split Systems						
	2013-NRCA-MCH-02-A: Ventilation Systems	2013-NRCA-MCH-03-A: Constant-volume, Single-zone Unitary A/C and HP Temperature Scheduling & Controls for DX units	2013-NRCA-MCH-04-H: Air Distribution Systems	2013-NRCA-MCH-05-A: Air Economizer Controls	2013-NRCA-MCH-06-A: Demand Control Ventilation	2013-NRCA-MCH-11-A: Demand Shed Controls
Change this (and nothing else)	Adequate OSA (when ventilation provided by HVAC)	Proper system temperature scheduling & controls for DX units	Duct leakage rate	Proper operation of economizer controls	Proper operation of DCV controls	Demand response
Whole package unit	YES	YES	YES ^A	YES ^B	YES ^C	YES ^D
Cooling coil	NO	NO	YES	NO	NO	NO
Entire Split System	YES	YES	YES	YES	YES	YES
Ductwork ^E	NO	NO	YES ^A	NO	NO	NO
>75% new ducts and Whole Pkg Unit and Split System	YES ^B	YES	YES ^A	YES ^B	YES ^C	YES ^D

NOTE: ⁺ For Nonresidential HVAC systems, a change in blower motor, compressor, condenser coil, or plenum is considered a repair and does not trigger the Title 24, Part 6 Standards.

^A If ducts are for a single-zone CAV unit serving <5,000 ft, and if >25% duct surface area in unconditioned space
^B If the system has an economizer, and it is NOT factory installed and CEC certified
^C If system is single-zone with any controls or multi-zone with direct digital control, and has airside economizer, and serves a high-density space (≥25 people per 1,000 ft²)
^D The acceptance test requirement only applies if the unit has DDC controls.
^E Check with your local building department to see if changes to duct work only will require a permit.

- ✓ Check Tables G & H on NRCC-PRF-01 form
- ✓ Use Energy Code Ace Trigger Sheets and/or Reference Ace



I Can't Find a Straight Answer

Energy Code Ace - Referenc...
www.energycodeace.com
Apps Imported From Firef...

2013 Building

Contents Search

- 2013 Title 24, Part 6 Standard
- Administrative Regulations Code of Regulations, Title 24, Part 6, Subchapter 1
- Efficiency Standards, California Regulations, Title 24, Part 6, Subchapter 2
- Subchapter 3 - Nonresidential Occupancies, and Coverage—Mandatory Requirements
- SECTION 120.0—GENERAL PROVISIONS
- SECTION 120.1—REQUIREMENTS FOR VENTILATION
- SECTION 120.2—REQUIREMENTS FOR SPA CONDITIONING SYSTEMS
- SECTION 120.3—REQUIREMENTS FOR PIPE INSULATION
- SECTION 120.4—REQUIREMENTS FOR AIR DISTRIBUTION DUCTS AND PLENUMS
- SECTION 120.5—REQUIREMENTS FOR NONRESIDENTIAL MECHANICAL SYSTEM ACCEPTANCE

BLUEPRINT

California Energy Commission
Efficiency Division

Issue 111 | September - October 2015

In This Issue

- Water and Energy Saving Economizer Approved
- Lighting Acceptance Test Technician Certification Provider Certificates of Acceptance
- Nonresidential Computer Compliance Program Updates
- EnergyPlus
- Integrated Environmental Solutions
- Energy Standards Presentations
- GAA
- Radiant Floor Heating Panels
- Signatures for Residential Compliance Documents
- Energy Code Ace Training Schedule

Water and Energy Saving Economizer Approved

During the September 9, 2015, Business Meeting, the California Energy Commission (Energy Commission) approved a new compliance option for economizers that save both water and energy. This approval allows pumped refrigerant-based economizers to be used as an alternative to water-side economizers for computer rooms (covered process), which are also commonly known as data centers. The benefit of using economizers is that they allow air conditioning systems to provide cool air to a space without operating the mechanical cooling system when outside temperatures are sufficiently cool. This results in energy savings.

Prescriptively, **Sections 140.9(a)(A) and B** of the 2013 Building Energy Efficiency Standards (Energy Standards) require that mechanical cooling equipment serving a computer room be equipped with an air-side or water-side economizer. The approval to use pumped refrigerant economizers is an alternative to the use of water-side economizers per Section 140.9(a)(B), and is specific to pumped refrigerant economizers installed in climate zones 1-3, 11-14, and 16. This approval does not affect the use of air-side economizers per Section 140.9(a)(A).

Pumped refrigerant economizers bypass the compressor, and pump refrigerant through the evaporator and condenser. The difference in energy consumption between the pump and compressor is where the energy savings occur. In a scenario where a water-side economizer would otherwise be installed, this alternative has the added benefit of conserving California's water.

A pumped refrigerant economizer was modeled and compared to a water-side economizer serving a computer room for all 16 climate zones in California. The results showed the pumped refrigerant economizer systems saved less energy based on the time dependent solution (TDS) for 14 of the 16 climate zones while using no water. An evaluation of computer room locations in California indicates most computer rooms are located within the 14 climate zones approved for the use of pumped refrigerant economizers. By switching from a water-side economizer to a pumped refrigerant economizer, roughly 4,000,000 gallons of water can be saved each year for a computer room with a load of 1.2 megawatts.

Lighting Acceptance Test Technician Certification Provider Certificates of Acceptance

Enforcement agencies should only use lighting control Certificates of Acceptance (IRCA-LT-02-A, IRCA-LT-03-A, IRCA-LT-04-A, and IRCA-LT-02-A) that have a logo from one of the following approved Acceptance Test Technician Certification Providers (ATTCPs):

- California Advanced Lighting Controls Training Program (CALCTP)
- National Lighting Contractors Association (NLCA)

Background
The goal of the ATTCP program is to provide training, certification, and oversight of technicians who perform the acceptance tests

Ace Resources Title 24 Part 6 Fact Sheet

Commissioning in the Energy Code

Commissioning requirements for all newly constructed nonresidential buildings are included in the 2013 update to Title 24, Part 6—California's Building Energy Efficiency Standards (Standards). Many of these requirements were moved from CalGreen (Title 24, Part 11), where commissioning was originally incorporated into state building code in 2008.

Commissioning requirements apply to all newly constructed nonresidential buildings, though the extent of the requirements depends on whether the conditioned floor area is less than 10,000 square feet or 10,000 square feet and greater.

The Standards define "newly constructed" as "a building that has never been used or occupied for any purpose" in Section 100.3.

The commissioning requirements in Part 6 do not apply to residential projects (including high-rise residential), do not apply to additions or alterations, and do not apply to newly constructed nonresidential buildings that are unconditioned.

Commissioning is critical to realizing the energy savings during building operation that were intended by the building design. Closely related to acceptance testing, commissioning involves functional testing during construction, but also includes activities during design that will ensure the building systems and associated controls will meet the owner's energy and operating efficiency goals.

Title 24, Part 6 defines commissioning as, "a systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements."

Commissioning Requirements

Commissioning requirements are included in **Section 120.8** of the Standards, and the table below illustrates which requirements apply based on conditioned floor area. Additional resources are listed that may provide valuable detail on how to properly implement these requirements.

Commissioning Requirements in Part 6	Conditioned Space <10k SF	≥ 10k SF
Design Review (120.8.2)	X	X
Commissioning Plan (120.8.3)	X	X
Functional Performance Tests (120.8.4)	X	X
OSDP Training (120.8.5)	X	X
Commissioning Report (120.8.6)	X	X

Table 1: Commissioning Requirements in Title 24, Part 6

Additional Resources

The following resources may be helpful in addition to the Standards language to understand the commissioning requirements:

- Building Commissioning Guide in Nonresidential Compliance Manual. This guide outlines both an intent and compliance method for each requirement in Section 120.8.

Building Commissioning Roles and Responsibilities

Because commissioning spans the entire building delivery process from pre-design through occupancy, many parties are involved, making communication and coordination paramount. Below is a list of who may need to participate in the commissioning process, at one time or another during the project:

- Owner, owner's representative or facility operator
- Designers (architect and MEP)
- Design Reviewer (see table below)
- Plans Examiner
- General Contractor
- Key Subcontractors (HVAC, controls, TAB, etc.)
- Acceptance Test Technician*
- Commissioning Agent*
- Building Inspector*

* These parties are generally only involved for buildings with conditioned floor area 10,000 square feet or greater when §120.8(i) - §120.8(j) are required.

Who is most appropriate to fill each of these roles is dependent upon the experience and expertise of the project team. There are no requirements in the Standards that designate who the Commissioning Authority must be. However, for both the Design Reviewer and Acceptance Test Technician, there are restrictions on who can fill these roles.

Building Area	< 10,000 SF	10,000 - 50,000 SF	> 50,000 SF	Complex systems in large >100,000 SF
Design Reviewer	Any licensed professional registered in California with the building project ID # that only 100% approved.	A licensed professional registered in the state that is not associated with the building project ID # that only 100% approved.	A licensed professional registered in the state that is not associated with the building project ID #.	A licensed professional registered in the state that is not associated with the building project ID #.

Table 2: Who can act as the Design Reviewer, per §120.8(i)

Information on becoming a certified Acceptance Test Technician can be found on the California Energy Commission's [Acceptance Test Technician Certification Provider website](#).

Additional Resources

The following resources may be helpful to understand roles related to the commissioning and acceptance testing process:

- Building Commissioning Guide in Nonresidential Compliance Manual. Section 12.1 of this guide outlines roles and information on how to find a qualified Commissioning Authority.
- California Commissioning Collaborative. This organization includes a Provider List that may be valuable when searching for a Commissioning Authority.
- Section 10-103(a)(1). This section in the Standards indicates that the Design Reviewer must be a licensed professional engineer.

EnergyCodeAce
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This program is funded by California utility customers under the auspices of the California Public Utilities Commission and in support of the California Energy Commission.

- ✓ Use Energy Code Ace Fact Sheets & CEC Blueprints
- ✓ Call/email CEC hotline: Title24@energy.ca.gov



It Is Still Not Working

CBECC-COM NONRESIDENTIAL COMPLIANCE SOFTWARE

HOME CBECC-COM 2013 CBECC-COM 2016 FAQ / TRAINING SUBMIT AN ISSUE

CBECC-COM USES ENERGYPLUS TO PERFORM SIMULATIONS USING A SIMPLIFIED GEOMETRY MODEL WITH SKETCHUP AND OPENSTUDIO SKETCHUP PLUGIN FOR DETAILED GEOMETRY INPUT. COMPLIANCE SOFTWARE AND THE ASSOCIATED SUPPORTING SOFTWARE ARE LISTED BELOW.

1. [DOWNLOAD/INSTALL CBECC-COM 2013 v3D-BETA](#)
[Click here to download and install CBECC-Com 2013 v3d-beta \(Build 803\)](#)

Beta Versions of CBECC-Com

- ✦ Beta version fixes form size
- ✦ Added report on “baseline” features
- ✦ And many other great things 😊

Traditional Classroom
[IN PERSON CLASS]
ENHANCED & NEW

Virtual Classroom
[ONLINE CLASS]
NEW

Decoding Talks
[ONLINE DISCUSSION]
ENHANCED & NEW

Self Studies
[ONLINE TRAINING]
NEW

Seek Out Additional Training

- ✦ Part 1 and 2 of “Decoding Talk–CBECC-Com”
- ✦ Standard Essentials “traditional” and “virtual”
- ✦ Self study for lighting



Wrap Up

- Welcome
- What We Heard from You
- Let's Talk
- Next Steps

► Wrap Up

- Thank you!
- Questions?
- CEUs





A new website developed by the Statewide Codes & Standards Program to help you meet the requirements of Title 24, Part 6

We offer **FREE**



A variety of tools to help you identify the forms, installation techniques, and building energy standards relevant to building projects in California



Classroom and online trainings on Title 24, Part 6.



Fact Sheets, Trigger Sheets, Checklists, and FAQs to help you understand when Title 24, Part 6 is "triggered" and how to correctly comply when it is



visit us at
www.EnergyCodeAce.com



Thank you!

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HELPING YOU PLAY YOUR CARDS RIGHT

“Install/Test” Key to 2013 NRCC-PRF Form (Contractor/ATT/HERS)

Project General Information “A”

- | | | |
|--------------------------|----------|--|
| <input type="checkbox"/> | Location | <i>Do you have the right building?</i> |
|--------------------------|----------|--|

Compliance Results “B” and “C”

Above and beyond minimum compliance “D”, “E”, “F”

- | | |
|--------------------------|-------------------------------|
| <input type="checkbox"/> | HERS measures are listed here |
|--------------------------|-------------------------------|

Compliance Path and Documentation “G”, “H”

- | | |
|--------------------------|---|
| <input type="checkbox"/> | <p>Provide all forms applicable (Performance / Prescriptive / Mandatory)
 Envelope; Mechanical; Indoor Lighting (conditioned); Indoor Lighting (unconditioned); Outdoor Lighting; Sign Lighting; Plumbing (DHW and Solar Hot Water); Commissioning; Electrical; Covered Process</p> <p><i>NRCI: Installation certificates provided by installing contractors</i>
 <i>NRCA: Acceptance certificates provided by ATT or contractor (as required)</i>
 <i>NRCV: HERS forms</i></p> |
|--------------------------|---|

Envelope “I”, “J”, “K”, “L” (as modeled “or better”)

- | | |
|--------------------------|---|
| <input type="checkbox"/> | NRCI-ENV-01-E For all opaque and fenestration features. To be provide by installing or general contractor |
| <input type="checkbox"/> | NRCA-ENV-02-E For all NFRC rated fenestration. To be provide by installing or general contractor |

Mechanical “M”, “N”, “O”, “P” (as modeled “or better”)

- | | |
|--------------------------|--|
| <input type="checkbox"/> | NRCI-MCH/PLB/STH-##-E For all mechanical features. To be provide by installing or general contractor |
| <input type="checkbox"/> | NRCA-MCH-##-A For mechanical features triggering acceptance testing by appropriate installing contractor (or ATT when approved by CEC) |
| <input type="checkbox"/> | NRCA-MCH/PLB-##-H For mechanical features triggering HERS rater. MUST BE REGISTERED WITH HERS PROVIDER |

Indoor Lighting in conditioned spaces “Q”, “R” (as modeled “or better”)

- | | |
|--------------------------|--|
| <input type="checkbox"/> | NRCI-LTI-##-E For all lighting and control features. To be provide by installing or general contractor |
| <input type="checkbox"/> | NRCA-LTI-##-A For control features trigger acceptance testing by ATT. MUST BE REGISTERED WITH ATT PROVIDER |

Lighting in Unconditioned Spaces / Outdoor Lighting / Sign Lighting

- | | |
|--------------------------|--|
| <input type="checkbox"/> | NRCI-LTI/LTO/LTS-##-E For all lighting and control features. To be provide by installing or general contractor |
| <input type="checkbox"/> | NRCA-LTI/LTO-##-A For control features trigger acceptance testing by ATT. MUST BE REGISTERED WITH ATT PROVIDER |

Electrical

- | | |
|--------------------------|--|
| <input type="checkbox"/> | NRCI-ELC-01-E For all electrical features. To be provide by installing or general contractor |
|--------------------------|--|

Covered Process

- | | |
|--------------------------|---|
| <input type="checkbox"/> | <p>NRCI-PRC-##-E For all covered process features. To be provide by installing or general contractor</p> <p><i>Refrigerated Warehouse</i></p> |
| <input type="checkbox"/> | <p>NRCA-PRC-##-F For all covered process features. To be provide by installing contractor</p> <p><i>Compressed Air; Kitchen Exhaust; Garage Exhaust; Refrigerated Warehouse</i></p> |

“Review” Key for 2013 NRCC-PRF Form (Energy Consultant/Architect/Engineer)

Project General Information “A” (what does it define)

<input type="checkbox"/>	Location (zip code and climate zone)	<i>Baseline envelope and some HVAC features</i>
<input type="checkbox"/>	Conditioned floor area	<i>Baseline lighting LPD allowances; HVAC system type; Cx type</i>
<input type="checkbox"/>	Unconditioned floor area	<i>Baseline outdoor LPD allowances</i>
<input type="checkbox"/>	Number of Stories	<i>Sets baseline HVAC equipment type</i>
<input type="checkbox"/>	Number of dwelling units	<i>baseline DHW budgets</i>
<input type="checkbox"/>	Building Orientation	<i>Baseline fenestration WWR allowances; Cooling loads based on heat gain of sun</i>

Compliance Results “B” and “C” (what features are helping or hurting the compliance TDV margin)

<input type="checkbox"/>	Compliance total	<i>Compliance to Title 24 Part 6 % (building department submittal)</i>
<input type="checkbox"/>	Total	<i>All energy using features (NOT FOR COMPLIANCE) %</i>

Above and beyond minimum compliance “D”, “E”, “F”

<input type="checkbox"/>	Verify that all of the features are applicable	<i>Use the “remarks” to help the building department and contractors understand what is being modeled if alternative systems and features need to be modeled due to software or code limitations.</i>
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Compliance Path and Documentation “G”, “H”

<input type="checkbox"/>	Verify that scope of work shown accurately	<i>NRCI: Installation certificates provided by installing contractors NRCA: Acceptance certificates provided by ATT or contractor (as required)</i>
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Envelope “I”, “J”, “K”, “L” – Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/>	Verify fenestration per orientation (WWR) and skylights; fenestration type; overhangs and sidefins
<input type="checkbox"/>	Verify opaque assemblies (concentrate on frame type and insulation features); cool roof properties for roof (if applicable)

Mechanical “M”, “N”, “O”, “P” - Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/>	Equipment type, heating and cooling output, minimum efficiency (dry – air systems / wet – hydronic systems); fan CFM and BHP (so important); economizers; controls; solar hot water (if applicable)
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Indoor Lighting in conditioned spaces “Q”, “R” (unconditioned lighting cannot be included in performance calculation) Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/>	Occupancy of spaces
<input type="checkbox"/>	Lighting type, number of fixtures, wattage associated with fixture

Covered Process “S” (features that may be modeled via the performance method)

<input type="checkbox"/>	Equipment type, features and controls
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Unmet Load Hours “T”

<input type="checkbox"/>	This is not a code requirement at this time, but will be for the 2016 code. PAY ATTENTION TO THESE NOW.
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Signatures

<input type="checkbox"/>	Sign (this is the #1 plan check comment)
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“Verify” Key to 2013 NRCC-PRF Form (Plans Examiner / Building Inspector)

Project General Information “A” (what does it define)

<input type="checkbox"/>	PE	Location	Baseline envelope and some HVAC features
<input type="checkbox"/>	PE	Conditioned floor area	Baseline lighting LPD allowances; HVAC system type; Cx type
<input type="checkbox"/>	PE	Unconditioned floor area	Baseline outdoor LPD allowances
<input type="checkbox"/>	PE	Number of Stories	Sets baseline HVAC equipment type
<input type="checkbox"/>	PE	Number of dwelling units	Baseline DHW budgets
<input type="checkbox"/>	PE	Building Orientation	Baseline fenestration WWR allowances; Cooling loads based on heat gain of sun
<input type="checkbox"/>	BI	Has anything changed from permit review?	Changes to any of the features listed above WILL change compliance and should be rerun and verified by plan check.

Compliance Results “B” and “C” (what features are helping or hurting the compliance TDV margin)

<input type="checkbox"/>	PE	Compliance total	Compliance to Title 24 Part 6 % (building department submittal. Spend some extra time on the 1 st and 7 th placed features (best and worst)
<input type="checkbox"/>	PE	Total	All energy using features (NOT FOR COMPLIANCE) %

Above and beyond minimum compliance “D”, “E”, “F”

<input type="checkbox"/>	PE	These are listed as features that are providing “extra credit”; additional verification and understand what is being modeled if alternative systems and features need to be modeled due to software or code limitations.	
<input type="checkbox"/>	BI	These features are typically field verified. Please coordinate with general contractor	

Compliance Path and Documentation “G”, “H”

<input type="checkbox"/>		NRCC: List of features are included in this compliance package (spate NRCC forms may be required by others for complete submittal)	
<input type="checkbox"/>	BI	NRCI: Installation certificates provided by installing contractors NRCA: Acceptance certificates provided by ATT or contractor (as required)	

Envelope “I”, “J”, “K”, “L” – Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/>	PE	Verify fenestration per orientation (WWR) and skylights; fenestration type; overhangs and sidefins	
<input type="checkbox"/>	PE	Verify opaque assemblies (concentrate on frame type and insulation features); cool roof properties for roof (if applicable)	
<input type="checkbox"/>	BI	Review NRCI & NRCA forms. Has fenestration and insulation been provided as documented?	

Mechanical “M”, “N”, “O”, “P” - Primary features for compliance (further details are documented after the signatures, if applicable). DHW may not be included in performance and could be documented via prescriptive method

<input type="checkbox"/>	PE	Equipment type, heating and cooling output, minimum efficiency (dry – air systems / wet – hydronic systems); fan CFM and BHP (so important); economizers; controls; solar hot water (if applicable)	
<input type="checkbox"/>	BI	Review NRCI & NRCA forms. Has equipment been tested per NRCA forms?	

Indoor Lighting in conditioned spaces “Q”, “R” (unconditioned lighting cannot be included in performance calculation)

Primary features for compliance (further details are documented after the signatures, if applicable)

<input type="checkbox"/>	PE	Occupancy of spaces (sets LPD budgets and control allowances)	
<input type="checkbox"/>	PE	Lighting type, number of fixtures, wattage associated with fixture; controls (mandatory and PAF)	
<input type="checkbox"/>	BI	Review NRCI & NRCA forms. Have controls been tested by ATT with NRCA forms?	

Covered Process “S” (features that may be modeled via the performance method)

<input type="checkbox"/>	PE	Equipment type, features and controls	
<input type="checkbox"/>	BI	Review NRCI & NRCA forms. Has equipment been tested per NRCA forms?	

Unmet Load Hours “T”

<input type="checkbox"/>	PE	This is not a code requirement at this time, but will be for the 2016 code.	
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Signatures

<input type="checkbox"/>	PE	Signatures provided	
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