SEDAC
SMART ENERGY DESIGN ASSISTANCE CENTER

Energy Code: *An Introduction to COMcheck & REScheck*

Sept 2019

The Department of Energy developed COM*check* and RES*check* to improve consistency in code compliance. These free, easy-to-use tools help verify compliance and provide:

- a quick review for code officials and inspectors
- easy compliance check for builders/designers
- calculations and trade offs to help determine compliance

COM*check* and RES*check* were originally developed by PNNL for DOE in 1997 and have been continually updated since.

A "TRADE OFF" COMPLIANCE PATH OPTION

COM*check* and RES*check* present an alternative "trade off" compliance path option. They combine mandatory and prescriptive provisions with envelope trade offs. The software helps clarify trade-offs and prescriptive requirements and aids in interpretation of the code by calculating fan power, lighting power, and envelope minimum requirements based on building/space type and climate zone.

COM*check* and RES*check* can *not* be used to:

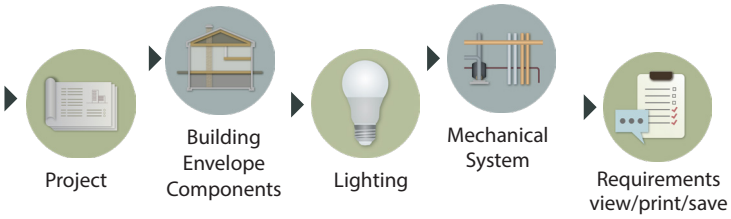
- check total building performance compliance
- calculate trade-offs between separate sections (lighting, HVAC)
- avoid mandatory requirements--all compliance paths must meet mandatory requirements

Compliance Path	Commercial Software	Residential Software	Description
Prescriptive	No compliance software needed	No compliance software needed	Follow prescriptive set of code requirements
Trade off	**COM*check***	**RES*check***	**Make thermal envelope trade-offs of R-values and U-factors**
Simulated Performance	eQuest EnergyPlus	REM/rate	Perform whole-building performance energy trade offs
Energy Rating Index	n/a	HERS	Use whole-building rating index to achieve compliance

USING COM*check* & RES*check*

Access COM*check* and RES*check* at energycodes.gov. You can download them to a Windows system, or you can use the web version and register with an email login and password. This will allow you to save projects electronically on the web.

Next, you will need to enter information about the project, building envelope components, lighting, and mechanical system.



Prepare by collecting the following information:

- Blueprints for architectural, mechanical, and electrical systems
- Floorplans that detail wall types, section views that detail wall components
- Specification for materials, if necessary
- Lighting schedule with fixture types and lighting counts
- Mechanical schedule with fan systems

Quick review for code officials

A checklist of requirements with simplified descriptive text is provided, and a report can be printed and submitted to code officials for review. The report clearly states if a design meets the energy code or not. The report can also contain notes about plans or specifications.

Easy compliance check for builders/designers

COM*check* and RES*check* both automatically update requirements, according to code version and climate zone. Values provide a reference for designers while making entries. Designers can check insulation and equipment efficiency levels during design, and double check again during plan review.

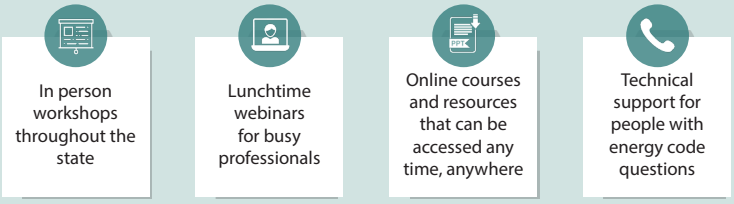
Compliance determinations are displayed at the bottom of the screen as a percentage above or below code compliance.

LEARN MORE

Want to learn more about COM*check* and RES*check*?

SEDAC's Energy Code Training Program is here to help. We provide energy code training and support for professionals throughout Illinois. While our training program addresses a variety of energy code topics, upcoming training opportunities in 2019-2020 will focus on achieving compliance using tools such as COM*check* and RES*check*.

We offer:



Find out more at sedac.org/energy-code

Funding is provided in whole or in part by the Illinois EPA Office of Energy.

DOE Training Resources
energycodes.gov/training

The Department of Energy's Building Energy Codes Program also offers a variety of excellent webinar-based training resources, ranging from overviews to special topics and tutorials.

Here's a sample:

COMcheck Basics

REScheck Basics

Energy Code Compliance Paths: Which is best for you?

Showing Compliance for Additions & Alterations using REScheck and COMcheck

WHO WE ARE

The Smart Energy Design Assistance Center assists buildings and communities in achieving energy efficiency, saving money, and becoming more sustainable. SEDAC is an applied research program at the University of Illinois at Urbana-Champaign working in collaboration with 360 Energy Group. In addition to Energy Code training and support, SEDAC services to save energy and money include:

Quick Advice | Energy Assessments | New Construction Design Assistance | Long-term energy planning | Retro-commissioning

sedac.org | 800.214.7954 | info@sedac.org

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