

Tax Deduction Qualified Software for buildings placed in service on or before December 31, 2015.

IES <Virtual Environment> version 2015

On this page you'll find information about the IES <Virtual Environment> version 2015 Qualified Software for Calculating Commercial Building Tax Deductions | Department of Energy

<http://energy.gov/eere/buildings/qualified-software-calculating-commercial-building-tax-deductions>, which calculates energy and power cost savings that meet federal tax incentive requirements for commercial buildings.

Date Documentation Received by DOE: March 21, 2016

Statements and information in the right hand column of this table are from the software developer.

Internal Revenue Code §179D (c)(1) and (d) Regulations Notice 2006-52, Section 6 requirements as amplified by Notice 2008-40, Section 4 requirements.	
(1) The name, address, and (if applicable) web site of the software developer;	Integrated Environmental Solutions Limited Helix Building, West of Scotland Science Park, Glasgow G20 0SP www.iesve.com
(2) The name, email address, and telephone number of the person to contact for further information regarding the software;	Liam Buckley Integrated Environmental Solutions +1 (617) 426-1890 IES North America support@iesVE.com
(3) The name, version, or other identifier of the software as it will appear on the list;	IES <Virtual Environment> 2015
(4) All test results, input files, output files, weather data, modeler reports, and the executable version of the software with which the tests were conducted; and	Provided to DOE.
(5) A declaration by the manager in charge of software development, made under penalties of perjury, that all statements and information in the right hand column of this table are true and correct.	On behalf of the IES <Virtual Environment> development team, I certify the following:
(a) The software has been tested according to ANSI/ASHRAE Standard 140-2007 Standard Method of Test for the Evaluation of Building Energy Analysis Computer Programs;	The software has been tested according to the American National Standards Institute/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ANSI/ASHRAE) Standard 140-2007 Standard Method of Test for Evaluation of Building Energy Analysis Computer Programs.

(b) The software can model explicitly—	The IES <Virtual Environment> 2015 software is fully compliant with ASHRAE 90.1-2001 and meets all of the requirements below:
(i) 8,760 hours per year;	The <VE> 2015 software complies.
(ii) Calculation methodologies for the building components being modeled;	The <VE> 2015 software complies.
(iii) Hourly variations in occupancy, lighting power, miscellaneous equipment power, thermostat setpoints, and HVAC system operation, defined separately for each day of the week and holidays;	The <VE> 2015 software complies.
(iv) Thermal mass effects;	The <VE> 2015 software complies.
(v) Ten or more thermal zones;	The <VE> 2015 software complies.
(vi) Part-load performance curves for mechanical equipment;	The <VE> 2015 software complies.
(vii) Capacity and efficiency correction curves for mechanical heating and cooling equipment; and	The <VE> 2015 software complies.
(viii) Air-side and water-side economizers with integrated control.	The <VE> 2015 software complies.
(c) The software can explicitly model each of the following HVAC systems listed in Appendix G of Standard 90.1-2004:	
(i) Packaged Terminal Air Conditioner (PTAC) (air source), single-zone package (through the wall), multi-zone hydronic loop, air-to-air DX coil cooling, central boiler, hot water coil.	The <VE> 2015 software models this system.
(ii) Packaged Terminal Heat Pump (PTHP) (air source), single-zone package (through the wall), air-to-air DX coil heat/cool.	The <VE> 2015 software models this system.
(iii) Packaged Single Zone Air Conditioner (PSZ-AC), single-zone air, air-to-air DX coil cool, gas coil, constant-speed fan.	The <VE> 2015 software models this system.
(iv) Packaged Single Zone Heat Pump (PSZ-HP), single-zone air, air-to-air DX coil cool/heat, constant-speed fan.	The <VE> 2015 software models this system.
(v) Packaged Variable-Air-Volume (PVAV) with reheat, multi-zone hydronic loop, air-to-air DX coil, VAV fan, boiler, hot water	The <VE> 2015 software models this system.

VAV terminal boxes.	
(vi) Packaged Variable-Air-Volume with parallel fan powered boxes (PVAV with PFP boxes), multi-zone air, DX coil, VAV fan, fan-powered induction boxes, electric reheat.	The <VE> 2015 software models this system.
(vii) Variable-Air-Volume (VAV) with reheat, multi-zone air; multi-zone hydronic loop, air-handling unit, chilled water coil, hot water coil, VAV fan, chiller, boiler, hot water VAV boxes.	The <VE> 2015 software models this system.
(viii) Variable-Air-Volume with parallel fan powered boxes (VAV with PFP boxes), multi-zone air, air-handling unit, chilled water coil, hot water coil, VAV fan, chiller, fan-powered induction boxes, electric reheat.	The <VE> 2015 software models this system.
(d) The software can—	
(i) Either directly determine energy and power costs or produce hourly reports of energy use by energy source suitable for determining energy and power costs separately; and	The <VE> 2015 software complies.
(ii) Design load calculations to determine required HVAC equipment capacities and air and water flow rates.	The <VE> 2015 software complies.
(e) The software can explicitly model:	
(i) Natural ventilation.	The <VE> 2015 software models natural ventilation.
(ii) Mixed mode (natural and mechanical) ventilation.	The <VE> 2015 software models mixed-mode ventilation.
(iii) Earth tempering of outdoor air.	The <VE> 2015 software models earth tempering of outdoor air.
(iv) Displacement ventilation.	The <VE> 2015 software models displacement Ventilation.
(v) Evaporative cooling.	The <VE> 2015 software models evaporative cooling.
(vi) Water use by occupants for cooking, cleaning or other domestic uses.	The <VE> 2015 software models water use by occupants.
(vii) Water use by heating, cooling, or other equipment, or for on-site landscaping.	The <VE> 2015 software does not model water use by heating, cooling, and other equipment or for on-site landscaping, and shall not be used for projects with this

	technology.
(viii) Automatic interior or exterior lighting controls (such as occupancy, photocells, or time-clocks).	The <VE> 2015 software models automatic interior and exterior lighting controls.
(ix) Daylighting (sidelighting, skylights, or tubular daylight devices).	The <VE> 2015 software models sidelighting, skylights, and tubular daylighting devices.
(x) Improved fan system efficiency through static pressure reset.	The <VE> 2015 software models improved fan system efficiency through static pressure reset.
(xi) Radiant heating or cooling (low or high temperature).	The <VE> 2015 software models low and high temperature radiant heating and cooling.
(xii) Multiple or variable-speed control for fans, cooling equipment, or cooling towers.	The <VE> 2015 software models multiple and variable-speed control for fans, cooling equipment, and cooling towers.
(xiii) On-site energy systems (such as combined heat and power systems, fuel cells, solar photovoltaic, solar thermal, or wind).	The <VE> 2015 software models on-site energy systems including combined heat and power, photovoltaic systems, and solar water and air systems.

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Software that cannot explicitly model one or more of the HVAC systems or features in sections 5.c and 5.e of the table can still be listed as qualified software. It cannot, however, be used for 179D analyses of projects that need to model such systems or features. When this is the case, the statement used for the particular requirements shall be as follows: The *AAA EnergySoftware* cannot model *system or feature X* and shall not be used for projects with this technology.

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