

Issue: #TB168
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Topic: EAct 2005

EPAct 2005: Lighting Tax Deduction

In August 2005, President Bush signed the Energy Policy Act of 2005 (EPAct). Section 1331 of this law contains provisions for an energy efficient commercial building tax deduction (CBTD). This technical bulletin discusses these provisions as they relate to commercial building lighting systems, one of the principal building systems targeted by this law.

General Provisions of CBTD

Eligible projects include those that:

1. are located within the United States
2. are within the scope of ASHRAE 90.1-2001
3. utilize energy efficient commercial building property installed as part of the interior lighting system, HVAC/hot water system, or building envelope
4. are placed in service between January 1, 2006 and December 31, 2007

Tax deductions are available on two bases, either as a one-time, whole building deduction of up to \$1.80/ft.², or as a partial deduction of up to \$.60/ft.² for achieving mandated energy savings targets specified for interior lighting, HVAC/hot water, or building envelope.

Lighting Tax Deduction Provisions

As provided by Section 1331(d) and (f), lighting system projects may qualify for the partial deduction. To do so, projects must satisfy the following requirements set forth in the interim rules, two of which refer specifically to controls:

1. Comply with all mandatory and prescriptive requirements of ASHRAE 90.1-2001 related to lighting controls, which include:
 - Automatic shutoff either by:
 - Scheduling (independent schedules < 25,000 ft.² or not more than 1 floor)
 - Occupancy sensor with maximum 30-minute time delay
 - Another building system signal indicating vacancy
 - Space controls
 - At least 1 switch/sensor to independently control lighting in spaces enclosed by floor-to-ceiling height partitions
 - Override controls with maximum of 4-hour override time when scheduling is used

- Maximum control zone size of 2,500 ft.² for floor areas up to 10,000 ft²
- Maximum control zone size of 10,000 ft² for spaces > 10,000 ft²

- Display lighting
 - Controlled by an independent and separate control device

2. Provide bi-level switching for most building spaces (referred to as occupancies)
 Exceptions: hotel/motel guest rooms, store rooms, restrooms, public lobbies

The law itself does not define bi-level switching. NEMA's commentary on the provisions states "bi-level switching is . . . as manual or automatic control (or a combination thereof) that provides two levels of lighting power in a space (not including off)."¹

In addition to these control requirements, other lighting-related requirements include:

1. reduce lighting power density (LPD) by 25-40% beyond the minimum requirements outlined in ASHRAE 90.1-2001.
 - a. Exception: warehouse spaces must reduce LPD by 50%

A pro-rated deduction is allowed for projects that reduce LPD between 25 and 40%. The table² below sets forth this proration.

% of LPD reduction	25%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	more than 40%
Amount of tax deduction	\$0.30	\$0.32	\$0.34	\$0.36	\$0.38	\$0.40	\$0.42	\$0.44	\$0.46	\$0.48	\$0.50	\$0.52	\$0.54	\$0.56	\$0.58	\$0.60	\$0.60

2. Meet minimum requirements for calculated lighting levels according to IESNA Lighting Handbook, 9th Ed.

Certification and Compliance Inspection

Once the requirements are met, a qualifying project must complete a certification process as well as a compliance inspection. The certification is to calculate and verify energy and power savings. The law directs the Secretary of Treasury (SOT) to develop regulations governing the certification process, using qualified software based on the provisions of the 2005 California Nonresidential Alternative Calculation Method Approval Manual. Compliance inspection regulations will be developed, with inspections being conducted only by qualified individuals as recognized by organizations specifically certified by SOT to do so.

Conclusion

EPAAct 2005 offers an unprecedented opportunity for commercial building owners to cost-effectively invest in energy efficiency. Watt Stopper/Legrand has numerous product and program offerings to streamline the process of qualifying for this deduction, from scheduling and occupancy-sensor code-compliant control strategies to control strategies that will help improve building energy performance beyond code. These include daylighting controls, mechanical system integration, and personal control strategies.

Footnotes

1 An Overview of Section 1331 of H.R. 6, the Energy Policy Act of 2005 Frequently Asked Questions, [www. efficientbuildings.org/about_the_provision.html](http://www.efficientbuildings.org/about_the_provision.html).

2 Energy Policy Act of 2005 Encourages Energy-Efficient lighting with Tax Deduction, Craig DiLouie, [www. aboutlightingcontrols.org/education/papers/tax_deduction_2005.shtml](http://www.aboutlightingcontrols.org/education/papers/tax_deduction_2005.shtml)

References

TB#166 Update on ASHRAE 90.1 Requirements: 2001 and 2004 Changes

General information about EPAAct 2005:

www.nema.org/gov/energy/Energy-Legislation.cfm#policy

www.efficientbuildings.org/

www.energytaxincentives.org

www.aboutlightingcontrols.org

Full text of H.R. 6:

frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_bills&docid=f:h6enr.txt.pdf