

EPAct 2005 for the Commercial Building Tax Deduction Provisions

A Brief Overview

National Electrical Manufacturers Association

Commercial Building Tax Deduction Program

Provides for
Accelerated Depreciation of Capital Expenditures

Overview

ASHRAE/IESNA Standard 90.1

DOE uses it as State baseline for energy codes

- 1989 was the first standard
- 1999, 2001 & 2004 are used in some jurisdictions
- **2001 used as the baseline for EAct 2005 tax provisions**
- 2007 standard published in December 2007

Uses lighting power density (W/sf) to limit energy use

Applies to all buildings except low-rise residential

- Similar to Title 24 energy code in California

Separate limits for exterior and interior lighting

EPACT 2005 is only concerned with interior lighting

IRS Notice 2008-40 clarified the definition of a building to include

- Enclosed space affording shelter to persons, animals or property within exterior walls and a roof
- Is not a single-family house, a multi-family structure of 3 stories or fewer above ground, a manufactured home (mobile home), or a manufactured house (modular)
- Is unconditioned attached or detached garage space

Check <http://www.bcap-energy.org/> for current state energy code listings

For latest on ASHRAE 90.1 go to <http://www.ashrae.org>

Interior Lighting Power Allowance

ASHRAE/IESNA Standard 90.1 1999 and later

Two methods to determine your allowance:

- **Building Area Method**

- Usually more restrictive than the space by space method

- **Space by Space Method**

- Usually more liberal than the Building Area Method, and more complex



Sample Lighting Power Densities
allowed for **building area types**:

- Hospital/Health Care 1.6 W/sf
- Manufacturing 2.2 W/sf
- Office 1.3 W/sf
- Religious building 2.2 W/sf

Sample Lighting Power Densities
allowed for **space types**:

- Emergency Room 2.8 W/sf
- Manuf. (High Bay) 3.0 W/sf
- Open Office 1.3 W/sf
- Private Office 1.5 W/sf
- Church Pulpit Area 5.2 W/sf

Bottom line: EPCRA tax deduction provisions are based on the idea that a new or renovated building will “beat” a watts per square foot standard by some percentage

EPAct 2005:

**Tax Deduction Provisions and
Opportunities**



The Energy Policy Act of 2005: Tax Deductions

2005 EPAct Tax Deduction Provisions for Commercial Buildings (“commercial” means non-residential, and includes industrial, retail, office, etc.)

- “Complete” Deduction, new or retrofit
 - Must include 3 sets of building systems: 1) building envelope, 2) interior lighting, and 3) HVAC and hot water systems
 - One-time tax deduction based on up to \$1.80/sq.ft. for buildings that beat ASHRAE/IESNA 90.1-2001 by 50% or more
 - Difficult to achieve.....
- “Partial” Deduction, new or retrofit
 - One-time tax deduction based on up to \$0.60/sq.ft. for one of the building systems that beat ASHRAE/IESNA 90.1-2001 by some percentage
 - Likely the best opportunity for interior lighting systems
- Deduction cannot exceed cost of the measure (design, labor, and material)

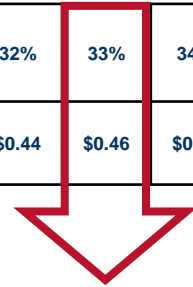
EPAct 2005 Partial Tax Deduction, Interim Rules

Interim Rules for Commercial Building Interior Lighting Systems

– Energy-efficient lighting can be used to achieve up to 1/3 of the tax deduction

- From \$0.30/sq.ft for beating 90.1-2001 by 25%
- Up to \$0.60/sq.ft for beating 90.1-2001 by 40%
- A “sliding scale” approach is used for savings between 25% and 40%
- **Exception: warehouses** can get \$0.60 but the interior lighting must beat 90.1-2001 by 50%
-- all or nothing
- **Note:** all of these lighting solutions must be **capital expenditures; therefore simple lamp replacements do not qualify**

% of LPD reduction beyond ASHRAE/IES 90.1 2001	<25%	25%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	>40%
Amount of Eligible Tax Deduction /sq.ft.	\$0.00	\$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



e.g., Beat by 33%, get \$0.46/sf

What is the window of opportunity?

Building or systems must be placed into service between **January 1, 2006-December 31, 2013** to claim the deduction

The new end date of December 31, 2013 represents a 5 year extension beyond the December 31, 2008 end date

- The extension went into effect when President Bush signed H.R. 1424 Emergency Economic Stabilization Act of 2008 on October 3, 2008
 - H.R. 1424 became Public Law 110-343
 - Division B titled Energy Improvement And Extension Act of 2008 provides for the new end date in Title III Energy Conservation And Efficiency Provisions, Section 303.



Who gets the deduction?

Asset owner gets the deduction for depreciable property

BUT if the owner is a public entity (e.g. schools), the designer of the system can claim the tax deduction

- The details of this provision were clarified by the IRS in Notice 2008-40

Tenants may get this deduction, if, for tax purposes, they are considered to be the asset owner; EPLA 2005 did not change the tax laws.... Whoever carries the lighting fixtures as an asset on their books is most likely to be considered the “owner” for tax purposes.

Is this a deduction or a credit?

This is a tax deduction provision, not a tax credit

- Deductions are taken prior to calculating the final tax amount owed
- Credits are subtracted from the amount of the tax

The deduction is for depreciable property and therefore has the net effect of rapidly accelerating the depreciation applied to the new lighting system

No specific IRS claim form

- Option 1
 - IRS form 4562, Depreciation & Amortization
 - Part 2, Special Depreciation Allowance & Other Depreciation
 - Attach item list of all deductions
- Option 2
 - Form 1120 for corporations, Form 1120-S for S corporation, Form 1065 for partnerships
 - Include the deduction in the amount entered in the “Other deductions” line
 - Attach item list of all deductions included in the “Other deductions” line

What other lighting requirements must be met?

Must meet IESNA recommended minimum design light levels (e.g., offices are 30-50 fc)

Must follow luminaire wattage rules (e.g., if a downlight is labeled as 150W, you must count it as 150W even if you put a lower wattage in it)

- If a luminaire can be labeled for a specific wattage lamp, that lamp wattage can be used to determine the luminaire wattage

Line voltage track: 30W per linear foot

Low voltage track: maximum wattage of the transformer

For fluorescent systems, how do I count the wattage?

Lamp/ballast system input wattage must be used

If energy-saving lamps are selected and installed, use the data for those lamps when calculating the system wattage

- For example, if you choose and install 3 - 28W lamps on a 0.78BF 3-lamp electronic ballast, input power is 63W
 - Document lamp/ballast combination in job material document
 - Identify the 28W lamp on permanent label in fixture

If specifications are not clear or it is unknown what will ultimately be installed, use the maximum wattage on the fixture label

- For T8 lamps, this translates to assuming that 32W lamps will be installed

What other lighting requirements must be met?

Must follow all applicable ASHRAE/IESNA Standard 90.1-2001 control requirements

Must have “bi-level switching” in all occupancies, except in hotel/motel guest rooms, store rooms, restrooms, public lobbies and garages (this is not part of 90.1 – it is in addition to it) – more on this later.....

- Garages were added by IRS Notice 2008-40

What controls requirements must be met, per ASHRAE/IESNA Standard 90.1 - 2001?

“Building Control”

- All **new** buildings larger than 5000 square feet must have automatic shut-off of lighting in all spaces, per Section 9 of the standard, as well as having lighting controls readily accessible in the space; however...
 - **In retrofits**, if you do not do anything with the existing controls, you do not need to meet the new building controls requirements from 90.1
 - **In retrofits**, if you do modify the existing controls, or if you replace more than 50% of the luminaires, then you have to meet the “space control” requirements for new buildings

“Space Control”

- For a space $\leq 10,000$ ft², 1 control per 2,500 ft²
- For a space $> 10,000$ ft², 1 control per 10,000 ft²
- Tandem wiring for 1 or 3 lamp linear fluorescents with magnetic ballasts
- Must be able to see the lighting from the control, unless there is a safety or security issue

How is bi-level switching defined?

“Bi-level switching is defined as manual or automatic control (or a combination thereof) that provides two levels of lighting power in a space (not including off). A space is defined as an area enclosed by four or more floor to ceiling walls. Dimming or switching would satisfy this definition.”*

- Large spaces are easy to do, because zone switching qualifies as bi-level switching -- provided you have at least 2 zones!
- Smaller spaces with one switch controlling all lights to either “on” or “off” must be re-wired or dimmed
- Use of an occupancy sensor to turn all lights in a space either “on” or “off” together is not enough to qualify as bi-level switching

Check state and local codes for definitions of bi-level switching

**Per FAQ section of www.efficientbuildings.org, recognized as an authoritative source on this issue by NEMA and by the Tax Incentives Assistance Project*

Can you give an example?

Assume a 100,000 square foot office building achieving a lighting power density 40% lower than the minimum standards of ASHRAE/IESNA 90.1-2001-
- and all illuminance & controls requirements are met

Maximum possible tax deduction based on \$0.60 per square foot

- Not to exceed actual cost

Results (for this example):

- Building owner earns a maximum gross tax deduction of \$0.60 per square foot during the year the building is commissioned... or \$60,000.
 - If the owner pays \$60,000 or more in design, material, and labor to do this retrofit, then \$60,000 can be written off in the year the building was commissioned and the balance would be depreciated in the normal fashion
 - If the owner pays less than \$60,000 for the retrofit—let's say \$50,000--- then the deduction is capped at \$50,000....but the benefit is that the \$50,000 can be written off in one year instead of having to depreciate it over time
 - Net tax deduction based on taxpayer's tax rate



What are the best websites for new information?

Clarifications are now routinely posted to FAQ sections of several websites:

- www.efficientbuildings.org
- www.energytaxincentives.org
- www.lightingtaxdeduction.org

All are very good, and all have had expert input from industry, advocates, and technical organizations

Further clarifications from IRS

IRS Guidelines

June 2, 2006, the Internal Revenue Service (IRS) issued 24 pages of Guidelines, Notice 2006-52, the first step of having a set of “permanent rules”

<http://www.irs.gov/pub/irs-drop/n-06-52.pdf>

In March, 2008, the IRS issued 17 pages of additional Guidelines, Notice 2008-40

<http://www.irs.gov/pub/irs-drop/n-08-40.pdf>

Lighting systems were affected in several significant ways

IRS described “Permanent” Rules for Lighting—we call them “New Partial Deduction Rules”

Permanent Rules/Partial Deduction Rules are different from Interim Rules, as follows:

- Entire building (new or renovated) has to be compared to a Reference Building of the same type in the same climate, using “approved” software
- The whole building has to be modeled and baseline energy usage calculated as if it were following ASHRAE/IESNA Standard 90.1-2001 power densities; total power usage includes these systems: Lighting, heating, cooling, ventilation, and hot water
- Determine the power density
- If just lighting, lighting must reduce the power density by 20%
 - HVAC/Hot Water: 20% Building Envelop: 10%
 - Change with IRS Notice 2008-40, Section 7 (<http://www.irs.gov/pub/irs-drop/n-08-40.pdf>)
- Proposed new lighting systems power must then be lowered to the point where the delta is 20% or more of the total building power allowance
 - Then 60 cents per square foot tax deduction is allowed for the new lighting system
- Bi-level switching requirement appears to be dropped from the “partial deduction” rules

Bottom Line: there are two options for taking a partial deduction for lighting -- “new partial deduction rules” and “interim rules” – take your pick

Which set of rules should building owners follow for lighting?

We recommend following the Interim Rules

- For most installations, the lighting power densities will be easier to comply with than the new IRS Partial Deduction rules or the Complete Deduction Rules
- The sliding scale allows for a range of deductions, not just all or nothing
 - Exception: warehouses
- No approved software is required for compliance
 - May be computed using a spreadsheet or other similar software per IRS Notice 2008-40
- NOTE: The only area of potential “difficulty” is with bi-level switching, but try to treat it as an opportunity rather than a problem. Check to see if the existing lighting system already provides bi-level switching.

Key points about the IRS Guidelines

Interim rules will be set aside when the “final” Guidelines are published to the Federal Register -- **BUT, NEMA does not expect the IRS to eliminate the interim rules**

- Net effect is that there are two sets of permanent rules for lighting systems – the interim rules are the easiest

The “designer” has now been defined for public buildings

- The “designer” may take the tax deduction

Other clarifications were made, including the answers to the following questions....

NEMA= National Electrical Manufacturers Association

The “Designer” for Government Property

Qualifying Property: property owned by a Federal, State, or local government or political subdivision

The owner of the government property may allocate the deduction to the person primarily responsible for designing the property

A designer is a person that creates the technical specifications

The designer may be the architect, engineer, contractor, environmental consultant or energy services provider

There can be more than one “designer”

- If so, the owner may elect to allocate among the designers

A person that installs, repairs or maintains the property is not a designer

The “Designer” for Government Property

The owner must allocate the tax deduction in writing

The allocation document must include

- The name, address and phone # of the authorized rep of the owner
- The name, address and phone # of an authorized rep of the designer
- The address of the government-owner building
- The cost of the qualifying property (ex. cost of the new lighting system)
- The date the property was placed into service
- The amount of the deduction allocated to the designer
- Signatures of both the owner and designer’s reps
- Prescribed declaration statement
 - “Under penalties of perjury, I declare that I have examined this allocation, including accompanying documents, and to the best of my knowledge and belief, the facts presented in support of this allocation are correct and complete

The designer does not submit the allocation document when taxes are filed, but holds the allocation document should it be needed in the future

The maximum amount of the deduction is the amount of the costs incurred by the owner – can’t deduct more than was spent

Notice 2008-40

<http://www.irs.gov/pub/irs-drop/n-08-40.pdf>

All Projects Must be Certified.

Who is qualified to certify compliance?

“A qualified individual

- (1) is not related to the taxpayer claiming the deduction...;
- (2) is an engineer or contractor that is properly licensed as a professional engineer or contractor in the jurisdiction where the building is located; and
- (3) has represented in writing to the taxpayer that he or she has the requisite qualifications to provide the certification...”

Certifications do not need to be sent in with the tax return, but must be held in the taxpayers' files in case of audit

Reference IRS Notice 2006-52: <http://www.irs.gov/pub/irs-drop/n-06-52.pdf>

Updated by a 2008 IRS Notice 2008-40: <http://www.irs.gov/pub/irs-drop/n-08-40.pdf>

You may find certifiers listed at www.nlb.org

What certification information should be included by the certifier?

Name, address, & telephone number of the qualified person

Address of the building

Prescribed statement for energy efficient lighting property that satisfies the requirements of either the “permanent” rule or the interim rule

Statement that reduced energy has been determined under the IRS rules

Statement that field inspections were conducted using the NREL guidelines for modeling and inspection and that the building has – or will – meet the energy saving targets contained in the plans and specifications

Statement that the building owner has received an explanation of the energy efficiency features of the building and projected annual energy costs

Statement that qualified computer software was used, if applicable (IRS permanent rules)

List of components of the interior lighting system installed in the building

Prescribed statement declaring the certifier believes the facts presented to be true, correct, and complete

NREL = National Renewable Energy Laboratory

Additional Guidance

Provided by National Electrical Manufacturers Association (NEMA)

- “National Electrical Manufacturers Association Guidance on Energy Policy Act Commercial Building’s Tax Deduction Certification Letters”
 - <http://www.lightingtaxdeduction.org/resources.html>
- Provides specific text to be used by the certifier and a sample certification of compliance letter when using the interim lighting rule

Provided by National Renewable Energy Laboratory (NREL)

- “Energy Savings Modeling and Inspection Guidelines for Commercial Building Federal Tax Deductions”
 - <http://www.nrel.gov/publications>
 - Publication # NREL/TP-550-40228

Where will approved software be posted ?

If a building owner wants to go for the “Complete Deduction” (all 3 building systems) or use the IRS “New Partial Deduction Rules”, they must use approved software for building modeling

The approved software is posted on: http://www1.eere.energy.gov/buildings/qualified_software.html

Some of the programs are listed:

- DOE-2.1E version 119
- DOE-2.1E-JJH, version 130
- Energy Guage version 3.2
- Energy Gauge Summit versions 3.1, 3.11, 3.13 & 3.14
- Energy Plus from DOE, versions 1.3.0.018, 1.4.0.025, 2.0.0.025 & 2.1.0.023
- Energy Plus from DOE, versions 2.2.0.023, 3.0.0.028 & 3.1.0.027
- EnerSim, version 07.11.30
- Green Building Studio, versions 3.0, 3.1 & 3.4
- Hourly Analysis Program version 4.31, 4.34, 4.40 & 4.41
- Owens Corning Commercial Energy Calculator (OC-CEC) version 1.1
- TRACE 700 from TRANE, versions 6.0.2.1, 6.1.0.0, 6.1.1.0 & 6.1.2.0
- VisualDOE version 4.1 build 0002

Please visit the site for more details and to verify that a software is still approved and if new software has been approved. Software can be removed from the approved list.

Some lighting product types that work well in the tax deduction scenario...

High efficiency fluorescent ballasts

Programmed start fluorescent ballasts with high lumen T8 lamps

Fluorescent dimming systems (bi-level requirement)

T5 fluorescent systems

Traditional fluorescent applications

As replacements for HID in high and low-bay applications

Pin-based compact fluorescent lamps

Ceramic and pulse start metal halide lamps

LED systems

This is a huge opportunity.

Knowledge of ASHRAE/IESNA Standard 90.1-2001 and of the EPACK 2005 tax deduction provisions will be necessary.

Don't forget to check for utility incentive programs.

**For more information, please
visit our member websites at
www.nemasavesenergy.org**