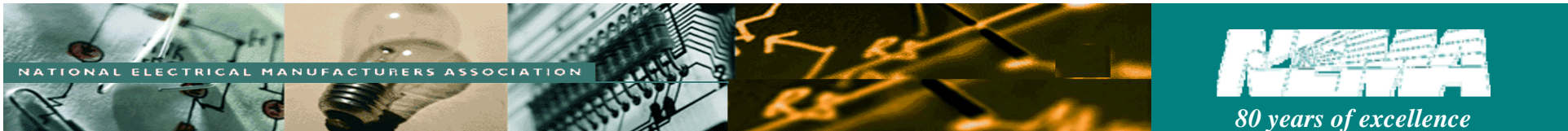


Commercial Buildings Tax Deduction

Ed Gray

Director, Energy Infrastructure

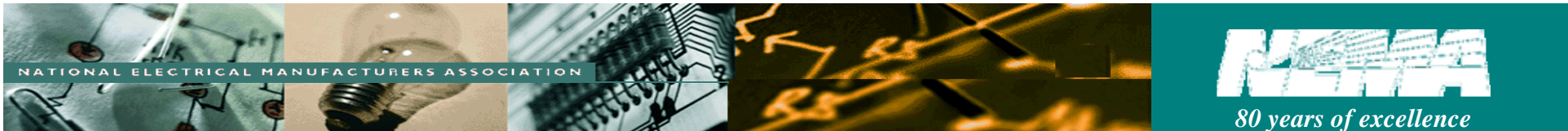
National Electrical Manufacturers Association



Commercial Buildings Tax Deduction

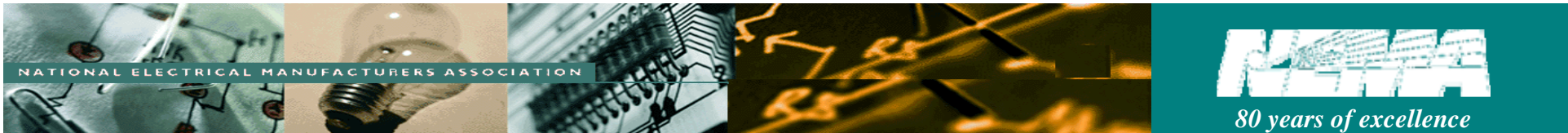
Provides for energy efficient systems deduction up to \$1.80 per square foot for whole buildings using 50% less energy on a cost basis than a building designed to ASHRAE/IESNA 90.1-2001, as of April 2001. Or \$0.60 per square foot for systems improvements proportional to 50% energy savings for a whole building. Systems include lighting, HVAC/water heating, and building envelope. There is a special provision for federal, state or local government owned buildings

- Asset owner gets the deduction
- Allowable for assets placed in service from 1/1/06 through 12/31/07
- For government buildings, the person primarily responsible for the design gets the deduction
- Lighting systems have an interim provision, so that design doesn't have to wait on IRS regulations
- Certified designers, software, and inspectors must be used



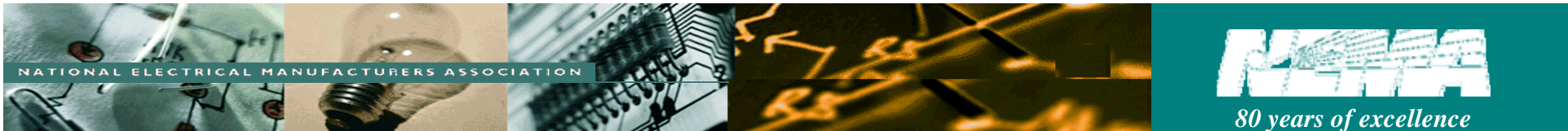
Tax Rule Schedule

- 💡 IRS Notice 2006-52 includes self certification concept for design, software, inspection; forms showing technical basis to be retained by taxpayer, but not sent in with return
- 💡 Government buildings rules to be included in another Notice
- 💡 “Regulation” to be done later to include detailed rules
- 💡 “Certified” software likely to be available soon
- 💡 Interim lighting rules enable work to be done before regulations done
- 💡 Stakeholders need to review IRS work for potential comments



IRS Clarified Issues

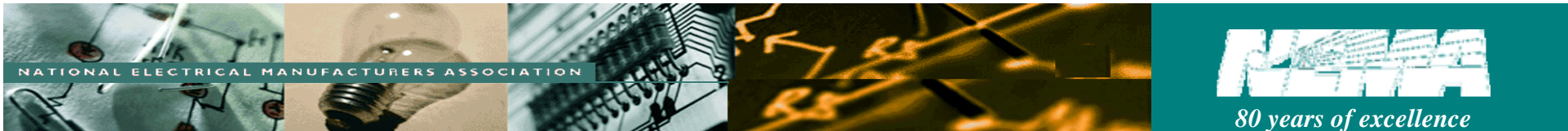
- 💡 International Revenue Service Notice 2006-52 contains guidance; corrected version in Internal Revenue Bulletin 2006-26 dated June 26, 2006
- 💡 Certifier and inspector may be professional engineer or contractor licensed in the building's jurisdiction
- 💡 Software to be self-certified, to be listed on DOE website
- 💡 Inspector cannot be an employee of asset owner



Alternatives for Deduction

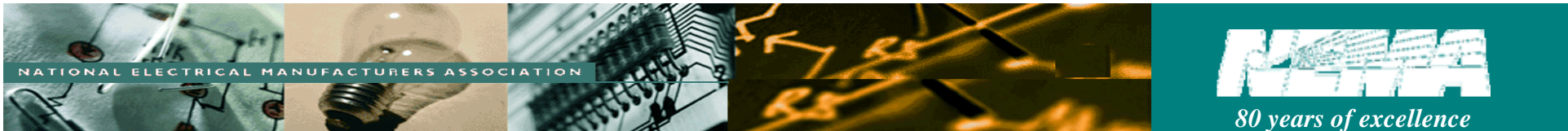
1. Whole building 50% energy cost reduction
2. Partial Deduction - Lighting Target
3. Partial Deduction - HVAC Target
4. Partial Deduction - Envelope Target
5. Interim Lighting Rules* using ASHRAE prescriptive lighting tables (9.3.1.1 and 9.3.1.2)

*Interim Lighting Rules only in effect until final regulations are published in Federal Register, NEMA has requested that “interim” rule alternative be made permanent



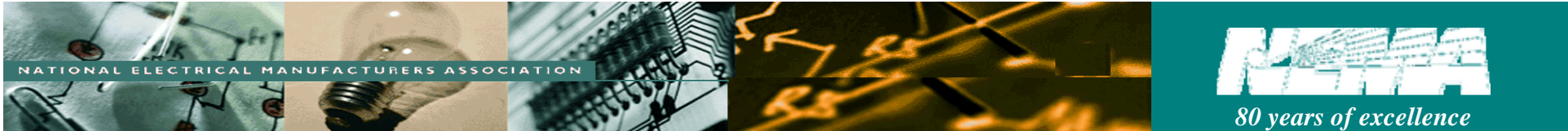
Whole Buildings

- 💡 Reference Building meets Standard 90.1 minimum requirements in the manner specified
- 💡 Performance Rating Method (PRM) used to determine energy and power cost reduction percentage of proposed building compared to reference building (50% and 16.7% targets)
- 💡 Baseline reference building performance uses PRM in Appendix G of ASHRAE Standard 90.1-2004
- 💡 California Title 24 “ACM” requirements:
 - Internal loads (Tables N2-2 and N2-3)
 - Infiltration modeling (Section 2.4.1.6)
 - Luminaire power from Appendix NB (or manufacturers data)



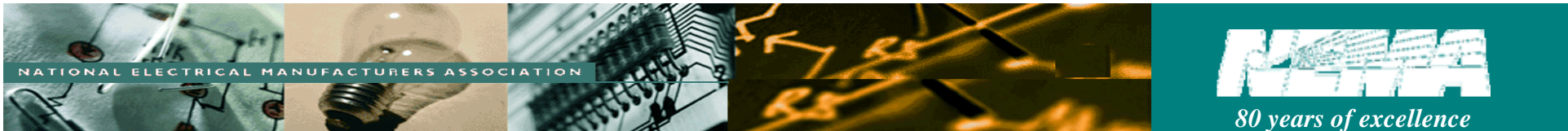
50% Below 90.1-2001 Buildings

- 💡 Achieved for a small number of existing buildings
- 💡 Additional systems in the Technical Explanation of the legislation are not in the IRS guidance (renewable on-site generation, daylighting, efficient wiring, and others)
- 💡 A high degree of systems integration; and careful site selection and orientation needed



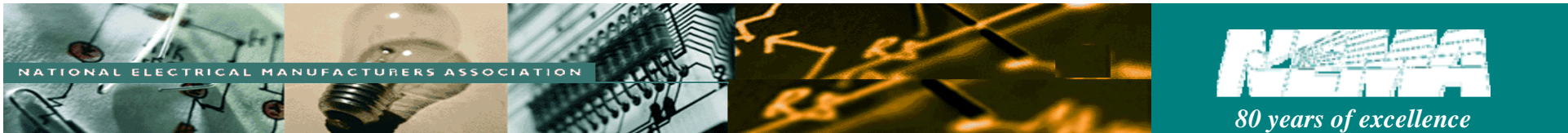
Typical Design Features

- 💡 Efficient envelope systems
- 💡 High performance glazing and selective orientation with solar control
- 💡 Daylighting
- 💡 High efficiency lighting and controls
- 💡 High efficiency HVAC and controls
- 💡 Ventilation control and heat recovery



PRM Information

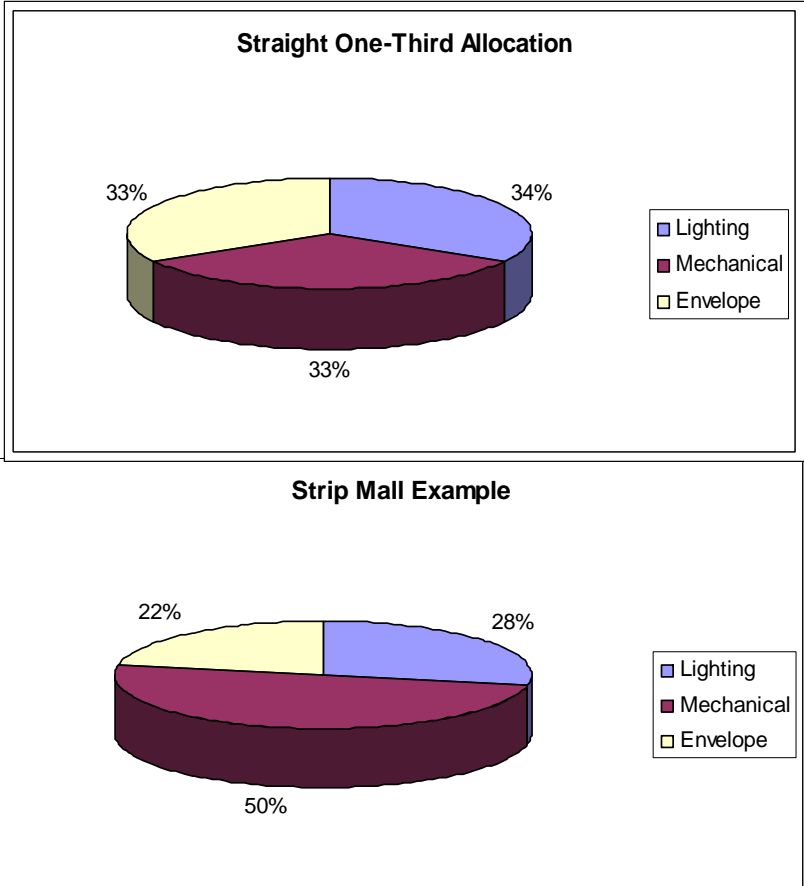
- 💡 ASHRAE Standard 90.1-2004 (on-line, read-only)
- 💡 2005 California Title 24 Nonresidential Alternative Calculation Method (ACM) Approval Manual
http://www.energy.ca.gov/title24/2005standards/nonresidential_acm/index.html
- 💡 DOE list of approved software
http://www.eere.energy.gov/buildings/info/tax_credit_2006.html
- 💡 NREL “Energy Savings Modeling and Inspection Guidelines for Commercial Building Federal Tax Deductions”



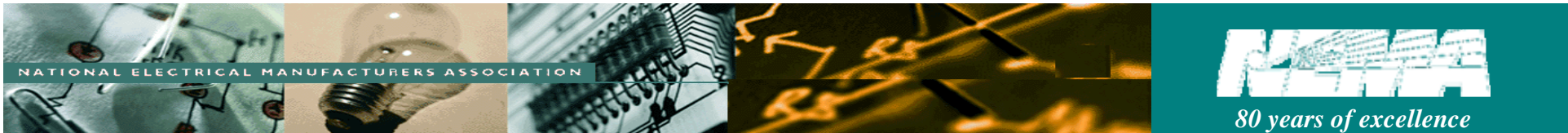
EPAct 2005 System Deduction

- ❏ Provides for partial deduction for 3 major systems (lighting, HVAC/water heating, building envelope) that correspond to 50% reduction in building energy use
- ❏ IRS Notice 2006-52 states that 16.7% whole building savings are the system goal for each system
- ❏ Requires building modeling using certified software
- ❏ Software will be listed on a DOE website
- ❏ NEMA has commented that the reference building, from a lighting perspective, need only be based on the space use, LPD and square feet; it is not necessary to develop site specific references for lighting

System Deduction



- 💡 IRS decision of 1/3 split means 16.7% energy cost reduction for each system (1/3 of 50%)
- 💡 Retail example using “custom targets”:
 - Envelope: 22% of cost; 11% savings target
 - Lighting: 28% of cost; 14% savings target
 - Mechanical: 50% of cost; 25% savings target
- 💡 One-third split targets may be hard to meet

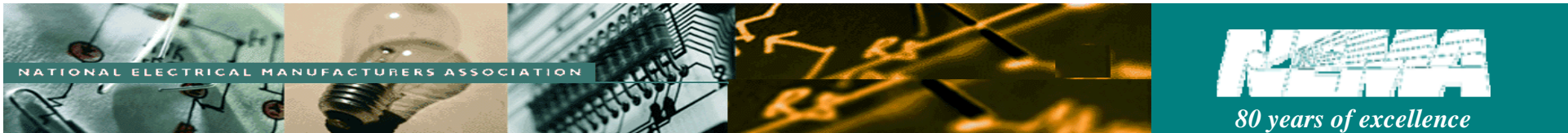


Interim Lighting Provision

Until such time that final IRS rules are promulgated, lighting systems are eligible for a partial deduction.

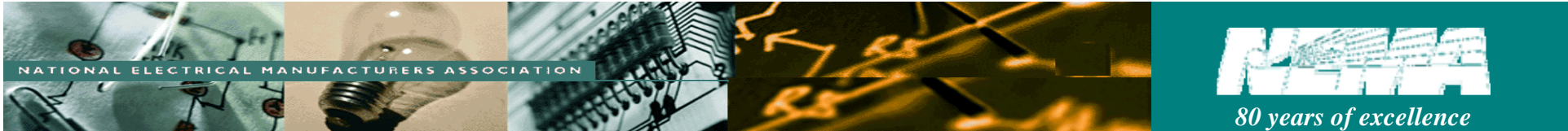
Key provisions:

- Deduction is \$0.30 to \$0.60 for 25 to 40% under ASHRAE LPDs, respectively, from Table 9.3.1.1 or 9.3.1.2. “Use it or lose it” allowances are not to be considered in the LPD reduction
- Warehouses must be 50% under to get \$0.60 (no sliding scale)
- ASHRAE controls + “bi-level switching” required
- Industry has asked that provision be made permanent as the lighting system deduction



Continuing Actions

- 💡 Convene technical stakeholders group to resolve details of ASHRAE vs. California methods and reference building
- 💡 Extend tax provision (several bills already introduced in Congress)
- 💡 Determine if other provisions need legislative solutions
- 💡 Continue promotional program



Further Information

-  <http://www.efficientbuildings.org>
-  <http://www.lightingtaxdeduction.org>
-  <http://www.energytaxincentives.org/tiap-commercial-bldgs.html>
-  <http://www.advancedbuildings.net/>