EPAct Aspects of Induction Lighting

By Charles Goulding, Jacob Goldman and Raymond Kumar

Charles Goulding, Jacob Goldman and Raymond Kumar look at the tax benefits of induction lighting for building owners pursuant to Code Sec. 179D.

Although the most frequently discussed categories of commercial lighting are fluorescent and LEDs (light emitting diodes) over the past decade, one increasingly popular lighting alternative is "induction lighting". Induction lighting is actually fluorescent lighting, but without electrodes, and is sometimes called "electrodeless discharge lighting."

The EPAct Tax Opportunity

Pursuant to Internal Revenue Code (Code) Sec.179D, as enacted by the Energy Policy Act (EPAct),[1] building owners or tenants making qualifying energy-reducing investments can obtain immediate tax deductions of up to $1.80 per square foot.

If the building project doesn't qualify for the maximum $1.80 per square foot immediate tax deduction, there are tax deductions of up to 60 cents per square foot for each of the three major building subsystems: lighting, HVAC (heating, ventilating, and air conditioning), and the building envelope. The building envelope is every item on the building's exterior perimeter that touches the outside including roof, walls, insulation, doors, windows and foundation.[2]

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Growth of Induction Lighting Market

The recent marked increase in induction lighting installations in the United States is an intriguing development, since the merits of this lighting technology have long been recognized in Europe. The fact that two of the worlds largest lighting companies, with an expanding U.S. market presence (namely Philips of the Netherlands and Siemens), are both European companies having long-term involvement with induction technology probably has a lot to do with the growth in the U.S. induction lighting market.

Before the introduction of LED building lighting, with its high unit prices and long useful life, the almost universal energy efficient lighting selected by U.S. commercial property owners was mainstream fluorescent lighting. Since LED building lighting is new, unproven and expensive, property owners and design consultants have by necessity been obligated to engage in more thoughtful product evaluation and analysis. We believe it is this more thoughtful analysis by sophisticated purchasers that has resulted in a better understanding of the benefits of induction lighting technology and its demonstrated history of providing many of the same benefits promised by LED technology.[3]

Induction Lighting Technology

Since all of the major alternative lighting solutions have positive and negative attributes, it is particularly

Chart 1

Building Type	2001 Standard LPD, W/ft2??	25% Improvement: Min. Deduction ($0.30 per sq. ft.)	40% Improvement Max. Deduction ($0.60 per sq. ft.)
Parking Garage	0.3	0.225	0.18
Manufacturing	2.2	1.65	1.32
Warehouse	1.2	50% required reduction to 0.60	

Chart 2

Lighting Type	Date Effective	Ban Details
Most Probe Start Metal Halides	January 1, 2009	Manufacturing Banned
T-12	July 1, 2010	Manufacturing banned Distribution now limited to ten per pack
Incandescents	Beginning 2012-2014	Ban on current efficiency levels beginning 2012

important to work with lighting professionals familiar with all technologies and the type of facility undergoing a lighting project.

It terms of major positive attributes, induction lighting has the advantage of long life rated at 100,000 hours and also a much lower price point than LEDs. LED building application's are relatively new and are currently very expensive. The very long product life makes induction lighting a good solution for use in difficult to reach lamp replacement areas and would also provide savings for maintenance personnel costs because difficult labor-intensive replacements would be needed less often. Induction lighting also has good performance characteristics in cold environments.

Some negative attributes are price points higher than fluorescent lighting and that utility rebate programs often do not specifically address induction lighting technology. Where a utility provides for lighting rebates but doesn't specifically provide for prescriptive (set or prescribed amount per lighting fixture) induction lighting rebates, the building owner should inquire about custom rebates or ask for at least the same rebate being offered per fixture for LED lighting.

For tax purposes, it is very important to realize that induction lighting uses very low wattage and normally qualifies for the highest level of the Code. Sec. 179D tax deduction. Moreover, the low wattage and overall energy savings often enables facilities to qualify for multiple EPAct tax deductions, particularly when coupled with Cambridge[4] heater installations and other highly energy efficient HVAC solutions in warehouses and industrial spaces.

The typical major space categories that can utilize induction lighting and the EPAct lighting tax deductions are shown in Chart 1.

Leading Induction Lighting Expert's Comments

Robin Conway, a leading expert on induction lighting and President of C-Light LLC, has noted the renewed interest in induction lighting:

Induction lighting technology has been around since the late 1980s, however there has been a renewed consumer interest since its attributes parallel that of LEDs. LED lighting is here to stay; nevertheless, there seems to be two groups of consumers: those who insist on the latest and greatest in lighting, such as LEDs, and those who want to wait it out just a little bit longer, prior to making such a substantial investment.

Induction lighting is perfect for the LED skeptic. Induction lighting provides a cost-effective lighting upgrade and it is a tried-and-true energy solution. Most induction lighting upgrades can realize a return on investment in less than two years and are perfect for large projects such as parking decks and warehouses. The upgrade is simple: a one-for-one HID (High Intensity Discharge) to induction replacement. This retrofit delivers an energy savings of up to 60 percent and reduces maintenance costs up to 75 percent. On top of these investment and operational cost savings, most of these projects qualify for a tax deduction using the Energy Policy Act of 2005.

Understanding the Federal Lighting Bans

Forward-looking companies should consider induction lighting as an alternative to several traditional lighting options that are beginning to be phased out due to their inefficiency. The chart below provides

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Compare and contrast costs of fluorescent, induction and LED lighting alternatives.
4. Obtain Cambridge heater or alternative heater proposals, taking into account possible roof designs.
5. Determine utility rebate based on all proposed separate and combined energy-efficient measures. Efficient lighting will reduce electrical use. Roof, insulation and heater will reduce "therms."
6. Determine tax incentives including EPAct tax deduction benefit and solar credit tax deductions. EPAct will be based on total project square footage, including mezzanines and pick and pack modules. The 30-percent solar tax credit will be based on the combined solar material and installation costs.
7. Prepare project proposal detailing project costs, energy savings, utility rebates and tax incentives.
8. Get project approved by building owner.
9. Hire contractors and execute project.
10. Have EPAct tax expert prepare model and tax documentation using IRS approved software.
11. Process utility rebates.
12. Reduce federal and state estimated tax payments, to account for expected large EPAct tax deductions and credits.
13. Celebrate tax-enhanced energy-efficient warehouse achievement!

Conclusion

As described above, there are multiple compelling reasons, including energy and substantial tax savings, why warehouses are becoming the breakout energy efficiency project building category. This is such a widespread phenomenon that market forces will require warehouse owners to upgrade, just to remain competitive. Once the overwhelming majority of warehouses are upgraded, America's building products community will undoubtedly turn their attention to the next major building category requiring improvement, which may very well be the office building you are sitting in.

ENDNOTES

[1] Unless otherwise indicated, all references to "Code Sec." and "Reg. §" are to the Internal Revenue Code of 1986, as amended, and the Treasury regulations promulgated thereunder.

[2] Energy Policy Act of 2005 (P.L. 109-58) ("EPAct").

Lighting

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detail on the bans that will be going into effect.[5]

T-12s are one of the most widely used lamps and can be found in many existing buildings, merchandise display cases and numerous other applications. Pursuant to the EPAct, ballast manufacturers cannot manufacture T-12 magnetic ballasts after July 1, 2010. T-12 lamps are very high energy users, compared to today's lighting products. A fluorescent lamp description number is determined by multiplying the lamp's diameter by eight. Thus, a T-12 lamp is 1-1/2 inch in diameter and a T-8 lamp is an inch in diameter. Companies with large purchases of T-12 replacement lamps should begin to expect price increase for future replacements. It wasn't until 2005 that the number of T-8s sold exceeded T-12s, which demonstrates that there is still a tremendous number of existing T-12 lamps destined for replacement.

The second main stay commercial lighting product that was made illegal to manufacture as of January 1, 2009, is the standard probe start metal halide fixture. Pursuant to the Energy Independence and Security Act of 2007[6] a metal halide lamp fixture with lamps greater than or equal to 150 watts but less than 500 watts must contain either:

1. a pulse start metal halide ballast with a minimum ballast efficiency of 88 percent;
2. a magnetic-start ballast with a minimum ballast efficiency of 94 percent; or
3. a nonpulse state electronic ballast with
   - a minimum ballast efficiency of 92 percent for wattages greater than 250 watts or
   - a minimum ballast efficiency of 90 percent for wattages of 250 watts or less.

There are some exceptions to these rules for certain specialized fixtures.

Conclusion

Tax professionals dealing with property owners undergoing interior building induction lighting upgrades, should realize that these improvements generally support large Code Sec. 179D tax deductions. In particular, when this lighting is installed in heat-only non-air-conditioned facilities, such as warehouses, industrial buildings, auto repair facilities and sports complexes, multiple Code Sec. 179D tax deductions may be taken.

Endnotes

1 Energy Policy Act of 2005 (P.L. 109-58).
2 Charles Goulding, Jacob Goldman and Nicole DiMarino, *EPAct Tax Deductions for Lighting Gain Wider Use*, Building Operating Mgmt., Jul. 2008, at 68.
3 Charles Goulding, Jacob Goldman and Taylor Goulding, *The Economic, Business and Tax Aspects of Light Emitting Diode Interior Building Lighting*, Building Operating Mgmt., Jan. 2009, at 31.
4 Charles Goulding, Jacob Goldman and Raymond Kumar, *Large EPAct Energy Tax Deduction Opportunities for Commercial Heaters*, Corp. Bus. Tax'n Monthly, Jan. 2010 at 11.
5 *Id.*
6 Energy Independence and Security Act of 2007 (P.L. 110-140).

Ad Valorem Tax

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on the interstate or intrastate character of companies is beyond the purview of facial discrimination. Rather, the court supported its facial-discrimination analysis exclusively by distinguishing cases where the court had struck down state taxes as facially discriminatory. The thin precedential basis for the Louisiana Supreme Court's decision is not surprising. As commentators have noted, unlike other discrimination jurisprudence law, the precise scope of the facial-discrimination test under *Amerada Hess*—*i.e.*, how far from the face of a statute a court can look to establish discrimination—is unclear.[10]

This is not a purely academic issue. Proving that a legislature acted with discriminatory intent can be extremely difficult, and establishing discriminatory effects is both burdensome and costly, as this case showed. Thus, a facial challenge will almost always be the taxpayer's preferred—and perhaps only usable—line of attack.

In other contexts, it is clear that status or characteristics cannot be used as a proxy for discrimination; if they are, the statute or practice will not be immune from a facial attack. For example, courts have found explicit age-based discrimination where a county used a proxy for age—Medicare eligibility—as a basis for differential treatment.[11] Likewise, an employer could not use gray hair as the basis for differential treatment because the "'fit' between age and gray hair is sufficiently close that they would form the same basis for invidious classification."[12] Similarly, a school's exclusion of a service dog has been held to be "discrimination because of handicap."[13] "[A]nd no doubt a policy excluding wheelchairs would be such discrimination, even if the stated purpose of the policy were a benign one."[14]

As mentioned, the extent to which this reasoning applies in the context of a Dormant Commerce Clause challenge remains unclear. The Louisiana Supreme Court's recent decision does nothing to clear up that ambiguity.

Endnotes

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2 La. Const. Art. VII, §18(B).
3 La. R.S. 47:1851(M) (emphasis added).
4 FERC is the successor to the Federal Power Commission. 15 U.S.C. §§717–717z.
5 *Amerada Hess Corp. v. Director, Division of Taxation, New Jersey Department of the Treasury*, SCt, 490 U.S. 66, 75, 109 SCt 1617 (1989).
6 *Transcontinental Gas Pipeline, Corp. v. Louisiana Tax Comm.*, La. SCt, 32 So3d 199, [La.] St. Tax Rep. (CCH) ¶202-311 (2010).
7 *Id.*
8 *Id.*
9 *Id.*
10 *See* David S. Day, *The Expanded Concept of Facial Discrimination in the Dormant Commerce Clause Doctrine*, 40 Creighton L. Rev. 497 (2007).
11 *Erie County Retirees Ass'n v. County of Erie, Pa.*, CA-3, 220 F3d 193, 215 (2000).
12 *McWright v. Alexander*, CA-7, 982 F2d 222, 228, 60 Empl. Prac. Dec. (CCH) ¶41,981 (1992).
13 *Sullivan v. Vallejo City Unified Sch. Dist.*, DC-CA, 731 FSupp. 947, 958 (1990).
14 *See* note 12, *supra*, 982 F2d at 228.

Jury Trial

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Implication for Taxpayers

This is the first case in California history adjudicating whether a taxpayer in a refund action is entitled to a jury trial in the California courts. While the case deals with California income tax, there is no policy reason to argue that the same rationale and conclusion should not be applicable to other state taxes, such as property tax or sales and use tax.

It is not clear what impact the decision, if left standing by the California Supreme Court, will have on tax litigation. In most cases, jurors are laypersons who do not have much tax background or experience. Many of them might be sympathetic, in various degrees, towards taxpayers and might be inclined to find facts in the taxpayer's favor. In addition, the higher costs of litigation would likely change the bargaining strategies of the government and taxpayers in settlement negotiations.

On the other hand, this case confirmed that a taxpayer in a tax collection case is not entitled to a jury trial. Therefore, the availability of a jury trial could be an important factor for taxpayers to