Group Relamping

Austin Energy is currently offering rebates to commercial customers who implement a group relamping strategy. Participating customers must replace their standard wattage T-8 lamps with lower wattage T-8 lamps. In most cases, the rebate will cover the incremental cost of the new lamps and increase the overall efficiency of the fixture, creating energy savings and more significantly, labor savings.

The Participation Process

In order to qualify for rebates customers must increase the efficiency of their existing T-8, F32, F25, F17 lamps. Other qualifications include:

- Area to be relamped must be clearly defined.
- AE recommends old lamps be recycled but in all cases removed lamps must be properly disposed.
- Replacement lamps must be compatible with existing fixture ballasts.
- Lamps must carry a minimum 2-year warranty.
- Existing system must be T-8 lighting system with electronic ballasts.
- Removed lighting equipment must be stored on site until the final inspection by Austin Energy; furthermore, it must be disposed of properly after inspection and not reused in the City of Austin electric utility service area. Removed materials must be disposed of in accordance with established City and County policies governing the disposal of hazardous waste materials.
- Qualified small business customers may be eligible for a 20% bonus on rebates.

The rebate level is $0.60 per lamp and a rebate application must be submitted before the group relamp project is started. For more information on this new lighting initiative contact us 482-5346.

The Economics

From an economic standpoint, the largest cost of a lighting system is not the initial cost of the fixtures but the energy and maintenance costs associated with keeping those lamps burning. Also, keep in mind that spot relamping can be as much as 5 times more expensive than group relamping.

The chart below represents the savings potential on a sample lighting project.

Economics of group vs. spot relamping for 1,000 three-lamp T-8 lensed troffers

Group relamping has higher lamp costs but much lower labor costs, in this case providing a 31% overall savings.

	Relamp cycle (hours)	Ave. relamps per year	Ave. material cost per year	Ave. labor cost per year	Total ave. cost per year
Spot relamping on burnout *	20,000	525	$1,391	$3,150	$4,541
Group relamping (70% rated life) **	14,000	750	$1,998	$1,125	$3,113
Difference		225	$597	-$2,025	**-$1,428 (31% savings)**

Notes: Source: EPA

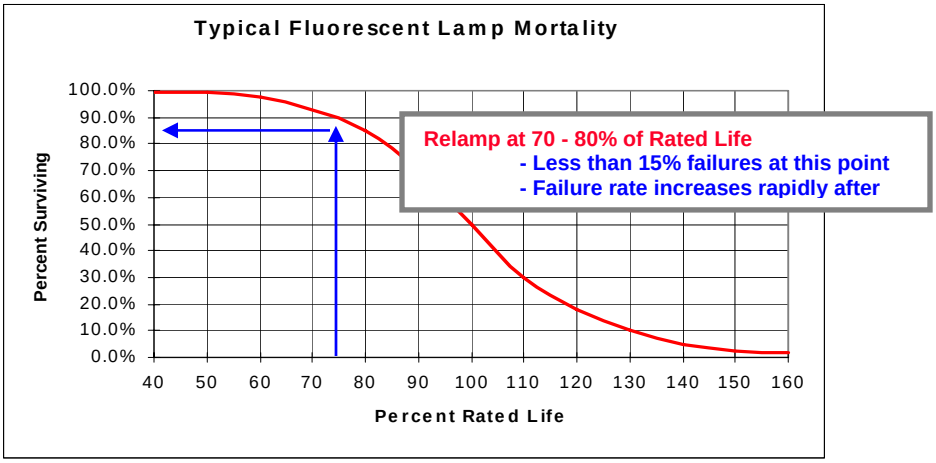
* Assumes labor costs of $6.00/lamp for relamping and cleaning, material cost of $2.65/lamp, and 3,500 hours/yr operation.

** Assumes labor costs of $1.50/lamp for relamping and cleaning, same material costs and operating hours as for spot relamping.

The Concept

The concept of group relamping involves the systematic replacement of lamps at pre-determined intervals. Instead of replacing lamps as they burn out (spot relamping), substantial labor savings can be achieved by implementing a group relamping strategy. Newer technology, reduced wattage T-8 lamps have the added benefit of energy savings over the standard efficiency T-8 lamps by 2 to 4 watts per lamp. Since it is possible to predict when a typical fluorescent lamp will burn out, the optimal time to replace the lamps will be just before that time is reached. As fluorescent age, their light output decreases, yet they consume the same amount of energy producing lower light levels. Timely replacement of old lamps eliminates this inefficiency.

So when is the optimal interval to group relamp? The answer is the point when the lamps in an area will start burning out on a regular basis. This makes it cost effective to just replace them all even if they aren't burned out yet. Therefore, the optimal time for group relamping usually works out to 70% to 80% of rated lamp life. The chart bellows indicates typical mortality curves for fluorescent lamps.



Group relamping also allows for the implementation other lighting strategies such as replacement and/or repair of defective components such as ballasts and sockets. Additionally, fixture cleaning can be accomplished during relamping. This is important because fixtures can lose as much as 30% of their light output through the build up of dust, grease and other dirt accumulations. Finally, group relamping offers an opportunity to reevaluate your lighting needs and allow for replacement with higher efficiency lamps or alternate color temperatures.

The Benefits

Aside from the economic benefits, other tangible benefits are possible by implementing a group relamping strategy. For example, scheduling a relamping program during off peak hours eliminates disruption to employees and tenants, thereby increasing productivity. Light levels are also adequately maintained because lamps are replaced before their light output has fully depreciated and color shift over lamp life is virtually eliminated. Furthermore, lamps can be ordered in advance and purchased in bulk for additional volume discounts. And finally, fewer lamps are needed for inventory purposes, freeing up storage space.

Program guidelines and rebate levels are subject to change at any time, without notice.

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