What Are Common Lighting Issues with Electric Signs?

3 Sign Lighting Types:

1) Fluorescent
2) Neon
3) LED

Example of a FLUORESCENT-LIT SIGN. These common signs utilize a series of high-output fluorescent tubes mounted either horizontally or vertically within the sign cabinet. Lamps and fixtures can be regularly serviced by sliding the faces aside in cabinet tracking.

Example of a Neon-Lit Sign for a customer in Central Virginia. Neon can be used as shown in an open-tube configuration, or it can be installed inside channel letters and logos to light up the faces or produce halo-effects on the wall behind them.

Example of LED Lighting used in Channel Letters at Virginia Diner. The Virginia Diner has probably been around as long as neon technology, but owners decided it was time to switch the old, unreliable neon to a more economical sign lighting source...LED.

Problems w/ Fluorescent Signs:

IMPROPER LAMP SPACING

Until recent advances in LED technology, most cabinet type signs were populated with fluorescent lighting. Finding an electric sign contractor who understands sign lighting design is important to avoid visual problems down the road. Kind of like the Goldilocks story, you don't want your sign to be too hot, or too cold, but just right. Sign lamps placed too close together or too close to the face will make hot spots and produce uneven sign lighting.

Conversely, lamps spaced too far apart (over 12") or too far away from the surface will produce cool spots and make the sign uneven or too dim to read. Fluorescent lamps should always be at least 4" from the sign faces. That's why flat sign faces need deeper cabinets than signs with pan-formed faces. If your existing sign was poorly designed, retrofitting the faces or lamp configuration can cure the problem.

LIGHTING OUTAGES

Holiday Signs holds weekly production meetings where customer service needs are discussed and planned. I glanced over some recent reports and noticed a few common reasons for fluorescent service calls:

- SIGNS NOT FULLY LIGHTING, FLICKERING, OR COMPLETELY OUT (REQUIRES TROUBLE SHOOTING)
- ISSUES WITH THE TIMER OR PHOTO CELL
- CUSTOMER WOULD LIKE TO REPLACE FLUORESCENT LIGHTING WITH LED

Eventually a fluorescent lamp will burn out, but the average rated life is 12,000 hours, or about 2.75 years of night-time use for the T-12 HO type lamps typically used in exterior sign applications. Lamp sockets and ballasts, and eventually the wiring, will also wear out over time so remember regular maintenance will be required after you purchase the sign. Project managers from your trusted, local sign contractor can assist you in coming up with a good annual budget for typical sign maintenance issues.

Problems with Neon Lit Signage:

Neon sign lighting systems were first introduced in the 1920's, but have recently been trumped by more reliable and energy-efficient LED systems. Neon is a high-voltage system and due to safety concerns, only professional sign technicians or electricians should handle neon installation and repair. Here are some typical reasons for neon service calls:

- SIGNS FLICKER WHEN TURNED ON, THEN GO OUT. (COULD INDICATE BROKEN OR BURNED OUT SECTION OF NEON.)
- SIGN DOES NOT LIGHT AT ALL OR DIMLY LIT (COULD INDICATE A BAD TRANSFORMER.)
- ONE END OF A NEON SECTION IS FINE WHILE THE OTHER END IS OUT OR DIM. (COULD INDICATE YOU NEED TO RE-PUMP GAS OR REPLACE THE NEON TUBE.)

Both neon lighting and incandescent lighting are good candidates for retrofitting to LED, but neon is the best candidate for quick operating and repair cost savings. Holiday Signs frequently upgrades channel letters from neon to LED, and here is a link to a recent case study and also a good article on the topic.

Problems with LED:

LED lighting, with an average rating of 100,000 hours (or over 11 years of 24-hour usage), has the longest life of all sign lighting technologies. Rarely will an individual or string of LED's go out, but sometimes a power supply will fail. When comparing the maintenance and operating costs of other options, there's no question that LED is the most economical over time and will cause the least problems down the road.

Your brand is important and you should guard against inclinations to go for the cheapest LED products when constructing your signage. To avoid negative appearance issues, its best to use top brand systems like GE or Sloan to name a few. Although they may save some cost, sometimes opting for offshore brands can lead to whites and colors that produce less than expected results when you flick the switch for your signs at night.

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Contact: Mark Hackley, Account Executive
mhackley@holidaysigns.com (540)416-3154