



Are you a high volume user of “Exit” signs with incandescent bulbs or fluorescent lamps?

**Would you like to improve this process in the following areas?**

- **Meet environmental compliance regulations.** Reduce or eliminate hazardous waste disposal associated with incandescent bulbs and fluorescent lamps from “Exit” sign lighting. Media area is hazardous waste.
- **Improve workers’ safety and health.** Eliminate bulb and lamp change-outs.
- **Increase productivity.** Eliminate labor associated with “Exit” sign bulb and lamp change-outs.
- **Save money.** Reduce waste disposal costs, bulb replacement costs, energy costs, and labor costs for bulb and lamp change-outs.



*Luminescent Panel Exit Lighting*

*Low energy luminescent or LED (Light Emitting Diode) technologies are energy efficient alternatives to conventional “EXIT” sign lighting. All Navy installations are required by building and safety codes to install and maintain emergency “EXIT” lighting. Currently, most conventional “EXIT” lighting fixtures rely on incandescent bulbs or fluorescent lamps. On an annual basis, incandescent bulbs and compact fluorescent lamps must be changed out three and one times, respectively. The luminescent panel is a solid-state, fully-integrated lighting device with no bulbs or parts requiring maintenance. LED technology uses light emitting diodes as the light source. Using luminescent panel or LED lighting can virtually eliminate bulb change-outs and all associated labor and bulb/lamp replacement costs. Energy costs will also be dramatically reduced due to the lower power requirements. Unlike compact fluorescent lamps, which contain mercury, and incandescent bulbs, which contain lead, the luminescent panel and LED lighting contains no hazardous materials. Retrofit kits, as well as new fixtures, can be purchased as off-the-shelf items.*

**How can you achieve these improvements?**

Use low energy luminescent or LED lighting.

**How does this equipment work?**

The luminescent panel uses a solid-state technology that utilizes phosphorus to generate light. LED technology uses light emitting diodes as the light source.

**How will this equipment save you money?**

It will eliminate costs associated with labor and bulb/lamp replacements, reduce waste disposal costs and significantly reduce annual energy costs.

How can this technology eliminate or reduce pollution?

This pollution prevention technology replaces fluorescent lamps and incandescent light bulbs with a non-hazardous, energy saving product. Implementation will result in the following pollution reduction:

- Reduces the amount of mercury-containing compact fluorescent lamps and lead-containing incandescent bulbs that must be disposed of as hazardous waste.

Which facilities can benefit most from this technology?

All Navy facilities or operations using incandescent or fluorescent lighted "Exit" signs.

How can this technology reduce regulatory compliance concerns?

Use of non-hazardous luminescent or LED lighting increases energy efficiency and reduces environmental hazards from release of lead and mercury from waste bulbs and ballasts. Implementation will result in the following regulatory compliance benefits:

- May help facility comply with Executive Orders requiring agencies, by 2010, to increase energy efficiency in federal buildings by 35% (based on 1985 usage levels).
- Reduction in hazardous waste helps facility meet the requirement of waste minimization under RCRA, 40 CFR 262.41 (a) (6).
- May help facilities reduce their generator status and lessen the tasks required to comply under RCRA, 40 CFR 262 (i.e., recordkeeping, reporting, inspections, transportation, accumulation time and emergency response measures).



### Achieving Environmental Compliance Through Pollution Prevention

Every day the Navy faces the challenge of operating and maintaining the fleet while complying with environmental regulations. This burden can be reduced by using pollution prevention technologies and methods to reduce compliance requirements. This fact sheet is one in a series designed to encourage activities to use pollution prevention technologies and methods. The overall goal of this series is to promote sustained environmental compliance at the lowest life-cycle cost.

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