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Power Line Phase Cut Signaling

Tech ID: 11286 / UC Case 2006-650-0

ABSTRACT

Low Cost System for Electrical Power System Demand Response During Stage 1, 2 or 3 Power Emergencies

FULL DESCRIPTION

The University of California at Davis, in conjunction with the California Lighting Technology Center, Benya Lighting Design and NEV Electronics LLC, is pleased to announce the development of a new system for electrical power system Demand Response ("DR"). This system is capable of being quickly implemented at low cost and can be used to shed unnecessary lighting, appliance, air conditioning, and almost any other electric load during periods of Stage 1, 2 or 3 power emergencies.

The principal feature of the system is the ability to retrofit into existing buildings of all types, from residences to hotels, office buildings, and even industrial sites. No major rewiring is required; transmitting devices are installed at the electrical panel and receiving devices, including special wall switches, are installed at loads. Loads are shed upon command with the option of power emergency level, permitting prioritizing and choice by the user.

Unlike competing and foregoing concepts, this development uses low cost, robust devices, easily installed in existing or new buildings, and is capable of plug and play operation. It has been specifically developed to solve California's power crisis issues through safe, planned and staged load shedding, rather than adding generation capacity or staging rolling blackouts. The simplicity of the system lends itself to broad dissemination through utility rebate programs and other mass marketing programs.

A proof of concept demonstration device has been developed and operates properly.

FEATURES/BENEFITS

- ▶ Low cost
- ▶ Robust devices
- ▶ Easily installed in existing or new buildings
- ▶ Capable of plug and play operation

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,373,547	02/12/2013	2006-650

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OTHER INFORMATION

KEYWORDS

demand response, power, electricity, energy efficiency, electrical

CATEGORIZED AS

- ▶ **Energy**
- ▶ Other

RELATED CASES

2006-650-0

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