NEMA Standards Publication

NEMA 260-1996 (R2019)

Safety Labels for Pad-Mounted Switchgear and Transformers Sited in Public Areas

National Electrical Manufacturers Association

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Foreword

In early January 1981, several member companies of the NEMA Transformer Section indicated a strong desire to reduce the number of accidents involving children coming into contact with the active elements of pad-mounted transformers located in public areas. These accidents, while statistically low in number per year, are usually disfiguring and can result in death.

In February 1981, the Power Equipment Division Executive Committee established the Task Force on Safety Labels for Pad-mounted Switchgear and Transformers Sited in Public Areas. The Executive Committee charged the Task Force to develop a safety label which would warn small children away from an open pad-mount and simultaneously elicit an adult's attention to contact the owner of the pad-mount to remove the hazard. The Task Force was also instructed to develop a standard to accompany the label which would define its scope, content, appearance, and construction.

Over a period of 14 months, the Task Force pursued a liaison with manufacturers and user groups in order to obtain acceptance of the safety label concept while label development was underway. The resulting pictorial, "Mr. Ouch," was developed from several designs and was psychologically tested in two phases. In the fall of 1981, 16 possible pictorials were tested in Chicago, Illinois and San Antonio, Texas, among an equal number of English and non-English speaking children aged 2-1/2 to 6. Phase I testing indicated no significance in geographical considerations regarding the perceptual attitudes of the children. The best four pictorials of Phase I testing were redesigned and tested again in January 1982 among English and non-English speaking children aged 2-1/2 to 6-1/2 in Chicago, Illinois. In Phase II testing, the "Mr. Ouch" pictorial scored very high in the two major desirable label attributes—the depiction of an immediate hazard and the elicitation of a safe response from the child to avoid the hazard.

The psychological testing was conducted by the George R. Fraich Associates Testing Organization of Chicago, Illinois. Graphic design was provided by Agnew Moyer Smith Inc., Pittsburgh, Pennsylvania.

This revision of the standard was undertaken to make editorial changes to the standard's text and figures.

NEMA has exclusive rights for the management of the "Mr. Ouch" pictorial. Rights may be obtained for the use of the pictorial from the National Electrical Manufacturers Association, Suite 1847, 1300 North 17th Street, Rosslyn, VA 22209.

This Standards Publication was developed by the Switchgear and Transformer sections. Section approval of the standard does not necessarily imply that all section members voted for its approval or participated in its development. At the time it was approved, the Group/Section was composed of the following members:

SWITCHGEAR SECTION

A B Chance Company—Centralia, MO
ABB Power T & D Company, Inc.—Raleigh, NC
AEG Electric Power Systems, Inc.—Charleroi, PA
C. G. I. Systems—Paramount, CA
Controlled Power Ltd. Partnership—Canton, OH
Cooper Power Systems—South Milwaukee, WI
Cutler-Hammer Inc.—Pittsburgh, PA
Electrical Power Systems, Inc.—Tulsa, OK
General Electric—Hickory, NC
G & W Electric Company—Blue Island, IL
Gould Shawmut—Newburyport, MA

Mitsubishi Electric—Warrendale, PA
PDI—Sandston, VA
Pedersen Power Products—Omaha, NE
Powercon Corporation—Severn, MD
S & C Electric Company—Chicago, IL
Siemens Energy & Automation, Inc.—Raleigh, NC
SPD Technologies—Philadelphia, PA
Square D Company—Smyrna, TN
The Pringle Electrical Mfg. Company—Fort Washington, PA
Toshiba International Corporation—Houston, TX
Trayer Engineering Corporation—San Francisco, CA
USCO Power Equipment Corporation—Birmingham, AL
Waukesha Electrical Systems Inc.—Goldsboro, NC

TRANSFORMERS SECTION

ABB Power T & D Company, Inc.—Raleigh, NC
Acme Electric Corporation—Lumberton, NC
Cooper Power Systems—Waukesha, WI
Eaton Corporation
Cutler-Hammer – Dry Type Distribution Transformers—Pittsburgh, PA
Ferranti-Packard—Pittsburgh, PA
General Electric—Plainville, CT
Hammond Manufacturing, Inc.—Guelph, Ontario, Canada
Kentucky Association of Electric—Louisville, KY
Magnetran, Inc.—Voorhees, NJ
Niagara Transformer Corporation—Buffalo, NY
North American Transformer, Inc.—Milpitas, CA
Olsun Electrics Corporation—Richmond, IL
Pauwels Transformers—Washington, MO
PDI—Sandston, VA
Power Paragon—Gardena, CA
R E Uptegraff Mfg Company—Scottdale, PA
Siemens Energy & Automation, Inc., Power Transmission & Distribution—Raleigh, NC
Southern Transformer Company—East Point, GA
Square D Company—Monroe, NC
Vantran Electric Corporation—Waco, TX
Virginia Transformer Corporation—Roanoke, VA
Waukesha Electrical Systems, Inc.—Goldsboro, NC

Purpose

These labels are intended to identify pad-mounted equipment as potentially hazardous to anyone who comes in contact with its contents. The pictorials are designed to be meaningful to children and the illiterate and to contain supportive wording expected to elicit a safe response from an adult.