

TECHNICAL NEWS

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NEC 2005 Changes to Medium Voltage Nonshielded Cable

For many years, Article 310.6 of The National Electrical Code required cables operating above 2000 volts to be shielded. Through an exception to Article 310.6, the use of nonshielded cables up to 8000 volts was also allowed. Although



there were few users of 8000 volt nonshielded cables, there have been many users of 5000 volt nonshielded cables for many years in up to 4800 volt phase to phase rated systems. Due to safety concerns, the code making panels for the 2005 NEC reduced the allowable exception voltage to 2400 volts. According to the 2005 NEC, all cables used in systems rated above 2400 volts must be shielded.

To date 5 kV nonshielded cables are still being manufactured and used, however, these cables will soon no longer be available for industrial and commercial applications governed by NEC requirements.

Two things had to happen for its extinction to occur. First, the local authority having jurisdiction had to adopt the 2005 edition of the NEC. Statistics from NEMA show that a majority of the 50 states, District of Columbia and metropolitan areas responsible for Code adoption have adopted the 2005 edition. (See Map, back of this page) Second, the nationally recognized testing laboratory (e.g. UL) that provides a listing had to delete listings of these products. With regards to UL, in a letter dated July 26, 2006, UL advised their listees that UL Standard 1072 "Medium Voltage Cables" was revised to show a maximum 2400 volt rating for nonshielded cables. This revision will take effect June 30, 2007.

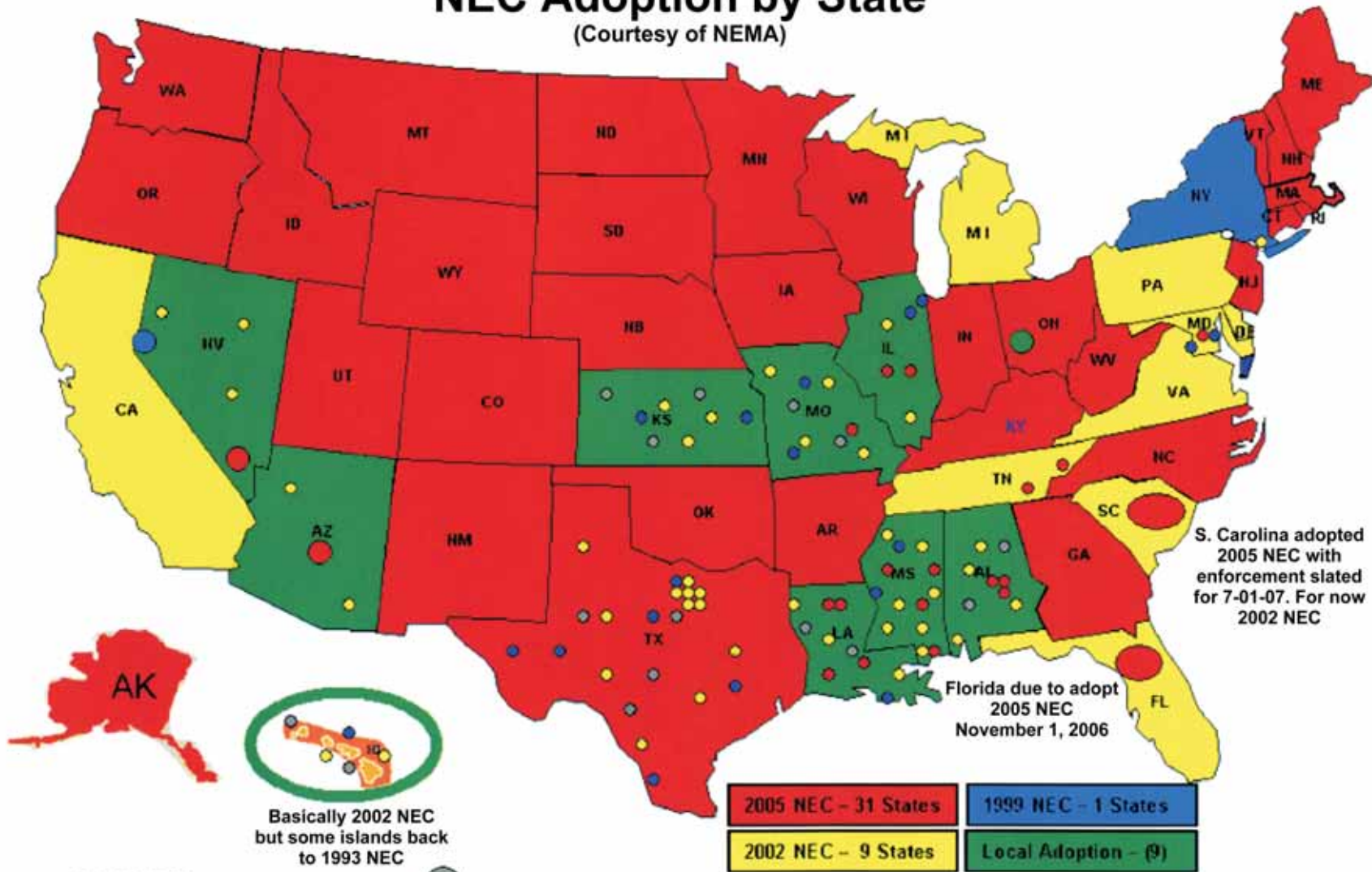
What does all this mean? Technically, 5000 volt nonshielded cables can still be manufactured, installed and utilized in industrial and commercial applications governed by NEC requirements until June 30, 2007 provided the 2005 edition has not been adopted by the authority having jurisdiction. This means manufacturers can still mark non shielded cables "5 kV NON SHIELDED UL MV 90" until June 30, 2007. However, if the local authority has adopted the 2005 NEC, then the 2.4 kV limit applies. In practicality, manufacturers will begin to phase out stocks of 5000 volt nonshielded cables between now and the effective date. The cable construction per UL Standard 1072 has not changed. The dimensions remain the same per NEC 2005 Table 310.63. Ampacities also remain the same.

There will continue to be users of 5000 volt nonshielded cables. There is no movement to remove 5000 volt nonshielded designs from ICEA and CSA standards. Utilities and governmental agencies who are not governed by the NEC may still continue to use 5000 volt nonshielded cable in their applications.

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NEC Adoption by State

(Courtesy of NEMA)



S. Carolina adopted 2005 NEC with enforcement slated for 7-01-07. For now 2002 NEC

Florida due to adopt 2005 NEC November 1, 2006



Basically 2002 NEC but some islands back to 1993 NEC

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NOTE: Some local adoption states have earlier than 1999 adoptions in some jurisdictions

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