

Report to APPA on the 2008 National Electric Code

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Of the 3600 proposals for changes to the National Electric Code, three of the most important to facilities managers in higher education are discussed in this summary. These three proposals are among the 175 presented to the technical panel where APPA has a vote. I am seeking input from facility managers and electrical engineers in the US higher education facilities industry in order to inform the final APPA ballot.

APPA's position is on NEC Panel 1 -- the panel that governs code administrative and general requirements. On this panel 12 votes are possible and 8 votes are required in final balloting to change the existing NEC. The process that is used by the NFPA to revise the NEC requires all panel representatives to report to their constituencies.

The preliminary "panel" vote that is reported in this summary should give you an indication of the predisposition of the panel on a given proposal. But it is not the final ballot; it is only a straw vote that moves the process along according to Robert Rules of Order. Final balloting is determined by the feedback I receive from other individuals among the APPA membership. A recommendation appears at the end of the short description of each issue.

Please email me your comments at the email address above. I would be happy to provide more detailed information on the three proposals discussed here as well as many other proposals presented to other technical panels. I will submit the ballot on behalf of APPA no later than 1pm, EST on January 9, 2007.

1. NEC Coverage - A proposal to modify the applicability of the NEC within the context of special agreements between an Owner and an electric utility was presented. The preliminary vote of the panel was 8-FOR, 4 AGAINST, 0 ABSTAIN, which indicates that the vote is close--at best. If the final ballot remains the same as the preliminary panel vote then the NEC will change. This change will reverse the work done in 2001 by a special Task Group assigned the task of clarifying what *is* covered by the NEC -- Section 90.2(A) and what *is not* covered by the NEC -- Section 90.2(B).

The NEC generally covers building premises wiring -- everything downstream from the service point. The National Electric Safety Code (NESC) covers everything upstream from the service point: metering, easements, rights-of-way, overhead and underground construction, and the like. Site lighting, municipal signaling, and multi-building campuses are examples of installations that lie in the "grey area" between the coverage of the NEC and the NESC because many campuses are supplied power downstream from a service point established by the local electric utility. Premises wiring in individual campus buildings are downstream from a service point established by the campus utility department and must conform to the NEC while the campus bulk distribution grid must conform to the NESC. Electrical inspectors, city engineers, electric utilities and public service commissions sometimes compete for authority over electric installations by asserting the provisions of either of these codes.

The 2001 Task Group was comprised of representatives from US higher education (APPA), the utility industry (Edison Electric Institute), the National Electrical Manufacturer's Association and the Institute of Electrical and Electronic Engineers. This Task Group was appointed by the NFPA and conducted its work according to the ANSI consensus process. The 2001 effort resulted in 2002 NEC language that provided flexibility through the use of the term "by other agreements" in Section 90.2(B)(5)(b). This language recognized that utility installations are governed by the tariff approved by the local electric utility regulatory commission. However, others see this flexibility as an "escape clause" that exempts municipalities and electric utilities from NEC requirements. even though no evidence of hazards that have been created because of this language.

RECOMMENDATION: Reject the proposal. The submitter of the proposal provided no evidence of hazards that have been created because of this language; only a complaint that the term "by other agreements" is vague. The Task Group inserted the term "by other agreements" to provide some working room for local interpretation. It does not make good business sense to ignore NEC rules for installations on the load side of the service point for multi-building campuses even if the existing NEC can be interpreted to permit it. Retaining the existing language preserves flexibility for large universities to enter into special agreements with their own "customers" and/or local utilities. Many APPA member institutions have generation, distribution and site lighting systems that function like publicly-owned utilities.

2. Flash Hazard - Incident energy numbers (IENs) on electrical distribution equipment shall not be required in 2008 edition of NFPA 70 (NEC). The preliminary vote was 2-FOR, 9-AGAINST, 1-ABSTAIN. Facility owners may provide IENs on electrical switchgear as an effort to "exceed-NEC-minimums" but the NEC does not now--nor has it ever--required IENs. Only NFPA 70E -- *Standard for Electrical Safety in the Workplace* which is enforced by OSHA, requires IEN's for the selection of personal protective equipment.

One of the effects of retaining the existing NEC language on flash hazard is that this aspect of electrical safety will continue to be funded principally through ongoing OSHA safety programs. This is the third code cycle in which the twelve member code-writing panel has rejected the IEN requirement. APPA has voted to abstain over the past three code cycles. (See Facilities Manager, July/August 2006)

RECOMMENDATION: Continue the abstention in the NEC for the proposals presented during this code cycle. An abstention neither rejects electrician calls for increased safety nor does it add significant first cost to a building. It simply takes a middle position until a proposal comes along in a future code cycle that can reconcile the competing requirements for safety and economy.

3. Engineering Supervision - The panel voted unanimously to table the proposal to consolidate all 58 uses of the term "engineering supervision" in the NEC. The proposal was to take all of the variations in the use of the term "engineering supervision" and consolidate them into a single, one-size-fits-all definition into Chapter 1. (Under NEC rules, any term that appears more than twice elsewhere in the code, should be included in the definitions governed by Panel 1.) Any use of this term would have to consider the context and the use of the term in each of the locations in the NEC. In Chapter 5, for example, where the rules for electrical installations in hazardous locations are covered, some of engineering decisions might be made by engineers with licenses in chemical or mechanical engineering. In view of the obvious complexity of the issue the panel has proposed that a multi-panel Task Group be assembled to study implications of any NEC definition on trade licensure, professional registration, design and construction risk management.

RECOMMENDATION: Accept the proposal to table the issue until 2011. No known problems with existing NEC language on engineering supervision are so critical that we cannot wait the results of the Task Group. APPA may at least participate in crafting the scope of work assigned to the Task Group--if not be a member of the Task Group.

These three have been selected as the most significant among the proposals assigned to Panel #1 but there are 172 others. Of these, about half are editorial in nature; others -- especially those involving working space for electrical equipment - will affect design and construction practice. More detailed information is available from me or at the NFPA website governing the 2008 NEC

[<http://www.nfpa.org/assets/files/PDF/ROP/NEC2008ROP.pdf>]

A discussion of approximately 25 issues outside the direct influence of APPA's position on Panel #1 will be developed in the near future. Most of these are very technical in nature and generally do not effect near-term capital planning and/or management strategies.

CODE-MAKING PANEL NO. 1
Articles 90, 100, 110, Annex A, Annex G

John D. Minick, *Chair*

National Electrical Manufacturers Association, TX [M]
Rep. National Electrical Manufacturers Association

- Michael A. Anthony**, University of Michigan, MI [U]
Rep. APPA - The Association of Higher Education Facilities Officers
- Louis A. Barrios, Jr.**, Shell Global Solutions, TX [U]
Rep. American Chemistry Council
- David A. Dini**, Underwriters Laboratories Incorporated, IL [RT]
- William T. Fiske**, Intertek Testing Services NA, Incorporated, NY [RT]
- H. Landis Floyd II**, The DuPont Company, DE [U]
Rep. Institute of Electrical & Electronics Engineers, Incorporated
- Palmer L. Hickman**, National Joint Apprentice & Training Committee, MD [L]
Rep. International Brotherhood of Electrical Workers
- David L. Hittinger**, IEC of Greater Cincinnati, OH [IM]
Rep. Independent Electrical Contractors, Incorporated
- Randall R. McCarver**, Telcordia Technologies, Incorporated, NJ [U]
Rep. Alliance for Telecommunications Industry Solutions
- Lanny G. McMahon**, City of Phoenix, AZ [E]
Rep. International Association of Electrical Inspectors
- H. Brooke Stauffer**, National Electrical Contractors Association, MD [IM]
Rep. National Electrical Contractors Association
- John W. Troglia**, Edison Electric Institute, WI [UT]
Rep. Electric Light & Power Group/EEI

(Note: Changes to the NEC are governed by 19 other panels comprised of various industry representatives.)