

2009 Fall Revision Cycle

Report on Comments

A compilation of NFPA® Technical Committee Reports on Comments for the 2009 Fall Revision Cycle.

Notice of Intent to Make a Motion (NITMAM) deadline: October 23, 2009

NOTE: The proposed NFPA documents addressed in the Report on Proposals (ROP) and in this follow-up Report on Comments (ROC) will only be presented for action at the NFPA June 2010 Association Technical Meeting to be held June 7–10, 2010, at Mandalay Bay Convention Center in Las Vegas, NV, when proper Amending Motions have been submitted to the NFPA by the deadline of October 23, 2009. Documents that receive no motions will not be presented at the meeting and instead will be forwarded directly to the Standards Council for action on issuance. For more information on the rules and for up-to-date information on schedules and deadlines for processing NFPA documents, check the NFPA website (www.nfpa.org) or contact NFPA Standards Administration.



National Fire Protection Association®

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Information on NFPA Codes and Standards Development

I. Applicable Regulations. The primary rules governing the processing of NFPA documents (codes, standards, recommended practices, and guides) are the *NFPA Regulations Governing Committee Projects (Regs)*. Other applicable rules include *NFPA Bylaws*, *NFPA Technical Meeting Convention Rules*, *NFPA Guide for the Conduct of Participants in the NFPA Standards Development Process*, and the *NFPA Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council*. Most of these rules and regulations are contained in the *NFPA Directory*. For copies of the *Directory*, contact Codes and Standards Administration at NFPA Headquarters; all these documents are also available on the NFPA website at “www.nfpa.org.”

The following is general information on the NFPA process. All participants, however, should refer to the actual rules and regulations for a full understanding of this process and for the criteria that govern participation.

II. Technical Committee Report. The Technical Committee Report is defined as “the Report of the Technical Committee and Technical Correlating Committee (if any) on a document. A Technical Committee Report consists of the Report on Proposals (ROP), as modified by the Report on Comments (ROC), published by the Association.”

III. Step 1: Report on Proposals (ROP). The ROP is defined as “a report to the Association on the actions taken by Technical Committees and/or Technical Correlating Committees, accompanied by a ballot statement and one or more proposals on text for a new document or to amend an existing document.” Any objection to an action in the ROP must be raised through the filing of an appropriate Comment for consideration in the ROC or the objection will be considered resolved.

IV. Step 2: Report on Comments (ROC). The ROC is defined as “a report to the Association on the actions taken by Technical Committees and/or Technical Correlating Committees accompanied by a ballot statement and one or more comments resulting from public review of the Report on Proposals (ROP).” The ROP and the ROC together constitute the Technical Committee Report. Any outstanding objection following the ROC must be raised through an appropriate Amending Motion at the Association Technical Meeting or the objection will be considered resolved.

V. Step 3a: Action at Association Technical Meeting. Following the publication of the ROC, there is a period during which those wishing to make proper Amending Motions on the Technical Committee Reports must signal their intention by submitting a Notice of Intent to Make a Motion. Documents that receive notice of proper Amending Motions (Certified Amending Motions) will be presented for action at the annual June Association Technical Meeting. At the meeting, the NFPA membership can consider and act on these Certified Amending Motions as well as Follow-up Amending Motions, that is, motions that become necessary as a result of a previous successful Amending Motion. (See 4.6.2 through 4.6.9 of *Regs* for a summary of the available Amending Motions and who may make them.) Any outstanding objection following action at an Association Technical Meeting (and any further Technical Committee consideration following successful Amending Motions, see *Regs* at 4.7) must be raised through an appeal to the Standards Council or it will be considered to be resolved.

VI. Step 3b: Documents Forwarded Directly to the Council. Where no Notice of Intent to Make a Motion (NITMAM) is received and certified in accordance with the Technical Meeting Convention Rules, the document is forwarded directly to the Standards Council for action on issuance. Objections are deemed to be resolved for these documents.

VII. Step 4a: Council Appeals. Anyone can appeal to the Standards Council concerning procedural or substantive matters related to the development, content, or issuance of any document of the Association or on matters within the purview of the authority of the Council, as established by the *Bylaws* and as determined by the Board of Directors. Such appeals must be in written form and filed with the Secretary of the Standards Council (see 1.6 of *Regs*). Time constraints for filing an appeal must be in accordance with 1.6.2 of the *Regs*. Objections are deemed to be resolved if not pursued at this level.

VIII. Step 4b: Document Issuance. The Standards Council is the issuer of all documents (see Article 8 of *Bylaws*). The Council acts on the issuance of a document presented for action at an Association Technical Meeting within 75 days from the date of the recommendation from the Association Technical Meeting, unless this period is extended by the Council (see 4.8 of *Regs*). For documents forwarded directly to the Standards Council, the Council acts on the issuance of the document at its next scheduled meeting, or at such other meeting as the Council may determine (see 4.5.6 and 4.8 of *Regs*).

IX. Petitions to the Board of Directors. The Standards Council has been delegated the responsibility for the administration of the codes and standards development process and the issuance of documents. However, where extraordinary circumstances requiring the intervention of the Board of Directors exist, the Board of Directors may take any action necessary to fulfill its obligations to preserve the integrity of the codes and standards development process and to protect the interests of the Association. The rules for petitioning the Board of Directors can be found in the *Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council* and in 1.7 of the *Regs*.

X. For More Information. The program for the Association Technical Meeting (as well as the NFPA website as information becomes available) should be consulted for the date on which each report scheduled for consideration at the meeting will be presented. For copies of the ROP and ROC as well as more information on NFPA rules and for up-to-date information on schedules and deadlines for processing NFPA documents, check the NFPA website (www.nfpa.org) or contact NFPA Codes & Standards Administration at 617-984-7246.

2009 Fall Revision Cycle ROC Contents

by NFPA Numerical Designation

Note: Documents appear in numerical order.

NFPA No.	Type Action	Title	Page No.
10	P	Standard for Portable Fire Extinguishers.....	10-1
11	P	Standard for Low-, Medium-, and High-Expansion Foam.....	11-1
13E	P	Recommended Practice for Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems	13E-1
14	P	Standard for the Installation of Standpipe and Hose Systems.....	14-1
18	P	Standard on Wetting Agents	18-1
37	P	Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines	37-1
45	P	Standard on Fire Protection for Laboratories Using Chemicals.....	45-1
53	P	Recommended Practice on Materials, Equipment, and Systems Used in Oxygen-Enriched Atmospheres	53-1
70B	P	Recommended Practice for Electrical Equipment Maintenance	70B-1
91	P	Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids	91-1
120	P	Standard for Fire Prevention and Control in Coal Mines	120-1
122	P	Standard for Fire Prevention and Control in Metal/Nonmetal Mining and Metal Mineral Processing Facilities.....	122-1
211	P	Standard for Chimneys, Fireplaces, Vents, and Solid Fuel–Burning Appliances.....	211-1
214	P	Standard on Water-Cooling Towers	214-1
276	N	Standard Method of Fire Tests for Determining the Heat Release Rate of Roofing Assemblies with Combustible Above-Deck Roofing Components	276-1
326	P	Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair	326-1
329	P	Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases	329-1
405	P	Standard for the Recurring Proficiency of Airport Fire Fighters	405-1
408	P	Standard for Aircraft Hand Portable Fire Extinguishers	408-1
409	P	Standard on Aircraft Hangars	409-1
495	P	Explosive Materials Code	495-1
505	P	Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations	505-1
551	P	Guide for the Evaluation of Fire Risk Assessments	551-1
701	P	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films	701-1
750	P	Standard on Water Mist Fire Protection Systems	750-1
804	P	Standard for Fire Protection for Advanced Light Water Reactor Electric Generating Plants	804-1
805	P	Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants	805-1
806	N	Performance-Based Standard for Fire Protection for Advanced Nuclear Reactor Electric Generating Plants Change Process	806-1
850	P	Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations	850-1

851	P	Recommended Practice for Fire Protection for Hydroelectric Generating Plants	851-1
853	P	Standard for the Installation of Stationary Fuel Cell Power Systems	853-1
914	P	Code for Fire Protection of Historic Structures	914-1
1003	P	Standard for Airport Fire Fighter Professional Qualifications	1003-1
1035	P	Standard for Professional Qualifications for Public Fire and Life Safety Educator	1035-1
1150	P	Standard on Foam Chemicals for Fires in Class A Fuels	1150-1
1407	N	Standard for Fire Service Rapid Intervention Crews	1407-1
1452	P	Guide for Training Fire Service Personnel to Conduct Dwelling Fire Safety Surveys	1452-1
1581	P	Standard on Fire Department Infection Control Program	1581-1
1600	C	Standard on Disaster/Emergency Management and Business Continuity Programs	1600-1
1801	N	Standard on Thermal Imagers for the Fire Service.....	1801-1
1952	N	Standard on Surface Water Operations Protective Clothing and Equipment.....	1952-1
2010	P	Standard for Fixed Aerosol Fire-Extinguishing Systems	2010-1

**2009 Fall Cycle ROC
Committees Reporting**

	Type Action	Page No.
Aircraft Rescue and Fire Fighting		
405 Standard for the Recurring Proficiency of Airport Fire Fighters	P	405-1
408 Standard for Aircraft Hand Portable Fire Extinguishers	P	408-1
Airport Facilities		
409 Standard on Aircraft Hangars	P	409-1
Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances		
211 Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances	P	211-1
Cultural Resources		
914 Code for Fire Protection of Historic Structures	P	914-1
Electric Generating Plants		
850 Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations	P	850-1
851 Recommended Practice for Fire Protection for Hydroelectric Generating Plants	P	851-1
853 Standard for the Installation of Stationary Fuel Cell Power Systems	P	853-1
Electrical Equipment Maintenance		
70B Recommended Practice for Electrical Equipment Maintenance	P	70B-1
Emergency Management and Business Continuity		
1600 Standard on Disaster/Emergency Management Business Continuity Programs	C	1600-1
Explosives		
495 Explosive Materials Code	P	495-1
Fire and Emergency Services Protective Clothing and Equipment		
Electronic Safety Equipment		
1801 Standard on Thermal Imagers for the Fire Service	N	1801-1
Special Operations Protective Clothing and Equipment		
1952 Standard on Surface Water Operations Protective Clothing and Equipment	N	1952-1
Fire Protection for Nuclear Facilities		
804 Standard for Fire Protection for Advanced Light Water Reactor Electric Generating Plants	P	804-1
805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants	P	805-1
806 Performance-Based Standard for Fire Protection for Advanced Nuclear Reactor Electric Generating Plants Change Process	N	806-1
Fire Risk Assessment Methods		
551 Guide for the Evaluation of Fire Risk Assessments	P	551-1
Fire Service Occupational Safety and Health		
1581 Standard on Fire Department Infection Control Program	P	1581-1
Fire Service Training		
13E Recommended Practice for Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems	P	13E-1
1407 Standard for Fire Service Rapid Intervention Crews	N	1407-1
1452 Guide for Training Fire Service Personnel to Conduct Dwelling Fire Safety Surveys	P	1452-1
Fire Tests		
276 Standard Method of Fire Tests for Determining the Heat Release Rate of Roofing Assemblies with Combustible Above-Deck Roofing Components	N	276-1
701 Standard Methods of Fire Tests for Flame Propagation of Textiles and Films	P	701-1
Foam		
11 Standard for Low-, Medium-, and High-Expansion Foam	P	11-1
Forest and Rural Fire Protection		
1150 Standard on Foam Chemicals for Fires in Class A Fuels	P	1150-1

Handling and Conveying of Dusts, Vapors, and Gases			
91	Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids	P	91-1
Industrial Trucks			
505	Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations	P	505-1
Internal Combustion Engines			
37	Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines	P	37-1
Laboratories Using Chemicals			
45	Standard on Fire Protection for Laboratories Using Chemicals	P	45-1
Mining Facilities			
120	Standard for Fire Prevention and Control in Coal Mines	P	120-1
122	Standard for Fire Prevention and Control in Metal/Nonmetal Mining and Metal Mineral Processing Facilities	P	122-1
Oxygen-Enriched Atmospheres			
53	Recommended Practice on Materials, Equipment, and Systems Used in Oxygen-Enriched Atmospheres	P	53-1
Portable Fire Extinguishers			
10	Standard for Portable Fire Extinguishers	P	10-1
Professional Qualifications			
Fire Fighter Professional Qualifications			
1003	Standard for Airport Fire Fighter Professional Qualifications	P	1003-1
Public Fire Educator Professional Qualifications			
1035	Standard for Professional Qualifications for Public Fire and Life Safety Educator	P	1035-1
Standpipes			
14	Standard for the Installation of Standpipe and Hose Systems	P	14-1
Tank Leakage and Repair Safeguards			
326	Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair	P	326-1
329	Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases	P	329-1
Water Additives for Fire Control and Vapor Mitigation			
18	Standard on Wetting Agents	P	18-1
Water-Cooling Towers			
214	Standard on Water-Cooling Towers	P	214-1
Water Mist Fire Suppression Systems			
750	Standard on Water Mist Fire Protection Systems	P	750-1

Documents Without Comments

The documents listed below appeared in the 2009 Fall Revision Cycle *Report on Proposals* but did not receive comments. Therefore, no reports of these documents appear in this *Report on Comments*.

255	W	<i>Standard Method of Test of Surface Burning Characteristics of Building Materials</i>
410	P	<i>Standard on Aircraft Maintenance</i>
422	P	<i>Guide for Aircraft Accident/Incident Response Assessment</i>
423	P	<i>Standard for Construction and Protection of Aircraft Engine Test Facilities</i>
498	R	<i>Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives</i>
520	P	<i>Standard on Subterranean Spaces</i>
600	R	<i>Standard on Industrial Fire Brigades</i>
601	R	<i>Standard for Security Services in Fire Loss Prevention</i>
900	P	<i>Building Energy Code</i>
1201	C	<i>Standard for Providing Emergency Services to the Public</i> (will be redesignated as NFPA 1201, <i>Standard for Providing Fire and Emergency Services to the Public</i>)
1250	P	<i>Recommended Practice in Emergency Service Organization Risk Management</i> (will be redesignated as NFPA 1250, <i>Recommended Practice in Fire and Emergency Services Organization Risk Management</i>)
1410	P	<i>Standard on Training for Initial Emergency Scene Operations</i>
1620	C	<i>Recommended Practice for Pre-Incident Planning</i> (will be redesignated as NFPA 1620, <i>Standard for Pre-Incident Planning</i>)
1931	P	<i>Standard for Manufacturer's Design of Fire Department Ground Ladders</i>
1932	P	<i>Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders</i>
1936	P	<i>Standard on Powered Rescue Tools</i>

The following documents changed reporting cycles as indicated below:

NFPA 204

The Technical Committee Report on NFPA 204, *Standard for Smoke and Heat Venting*, is not included in this *Report on Comments* for action at this meeting. The Committee has requested more time to develop a position on the design issues involving sprinklers in buildings equipped with smoke and heat vents. The document will instead report in the *Report on Comments* for the A2010 ROC cycle.

NFPA 1977

The Technical Committee Report on NFPA 1977, *Standard on Protective Clothing and Equipment for Wildland Fire Fighting*, is not included in this *Report on Comments* for action at this meeting. The Committee has requested more time because of new material submitted during the F2009 ROC. The document will instead report in the *Report on Proposals* for the F2010 ROP cycle, but will not reopen the proposal closing date.

**FORM FOR FILING NOTICE OF INTENT TO MAKE A MOTION (NITMAM)
 AT AN ASSOCIATION TECHNICAL MEETING
 2009 FALL REVISION CYCLE
 FINAL DATE FOR RECEIPT OF NITMAM: 5:00 pm EDST, October 23, 2009**

If you have questions about filling out or filing the NITMAM, please contact the Codes and Standards Administration at 617-984-7249

For further information on the Codes- and Standards-Making Process see the NFPA website (www.nfpa.org)

FOR OFFICE USE ONLY

Log #: _____

Date Rec'd: _____

Date 8/10/2005 Name John B. Smith Tel. No. 617-555-1212

Company or Affiliation John B. Smith Consulting Email Address _____

Street Address 9 Seattle Street City Seattle State WA Zip 02255

1. (a) **NFPA Document (include Number and Title)** National Fire Alarm Code/NFPA 72 1999ed
 (b) **Proposal or Comment Number** 72-5
 (c) **Section/Paragraph** 1.5.8.1

2. Motion to be made. Please check one (See also 4.6 of the Regulations Governing Committee Projects):

(a) Proposal

(1) Accept. _____ (2) Accept an Identifiable Part.*
 _____ (3) Accept as modified by the TC. _____ (4) Accept an Identifiable Part as modified by TC.*

(b) Comment

_____ (1) Accept. _____ (2) Accept an Identifiable Part. * _____ (3) Accept as modified by the TC.
 _____ (4) Accept an Identifiable Part as modified by TC.* _____ (5) Reject _____ (6) Reject an Identifiable Part.*

(c) Return Technical Committee Report for Further Study

_____ (1) Return entire Report. _____ (2) Return a portion of a Report in the form of a proposal and related comment(s).
 _____ (3) Return a portion of a Report in the form of identifiable part(s) of a proposal and related comments(s). (Identify the specific portion of the proposal and the related comments below)*

* Clearly identify the Identifiable Part(s) indicated above (use separate sheet if required).

3. I am entitled to make this motion in accordance with 4.6.8 of the Regulations Governing Committee Projects, as follows [check (a), (b), or (c)]:

(a) This motion may be made by the original submitter or their designated representative, and I am the [if you check (a) indicate one of the following]:

I am the original submitter of the proposal or comment, or
 ___ I am the submitter's designated representative (attach written authorization signed by the original submitter)

(b) ___ This motion may be made by a Technical Committee Member and I am a Member of the responsible Technical Committee.

(c) ___ This motion may be made by anyone.

(Form continued on next page)

**FORM FOR FILING NOTICE OF INTENT TO MAKE A MOTION (NITMAM)
AT AN ASSOCIATION TECHNICAL MEETING
2009 FALL REVISION CYCLE**

FINAL DATE FOR RECEIPT OF NITMAM: 5:00 pm EDST, October 23, 2009

If you have questions about filling out or filing the NITMAM, please contact the
Codes and Standards Administration at 617-984-7249

For further information on the Codes- and Standards-Making Process, see the NFPA
website (www.nfpa.org)

FOR OFFICE USE ONLY

Log #: _____

Date Rec'd: _____

Date _____ Name _____ Tel. No. _____

Company or Affiliation _____ Email Address _____

Street Address _____ City _____ State _____ Zip _____

1. (a) NFPA Document (include Number and Title) _____
(b) Proposal or Comment Number _____
(c) Section/Paragraph _____

2. Motion to be made. Please check one: (See also 4.6 of the Regulations Governing Committee Projects)

(a) Proposal

- _____ (1) Accept. _____ (2) Accept an Identifiable Part.*
_____ (3) Accept as modified by the TC. _____ (4) Accept an Identifiable Part as modified by TC.*

(b) Comment

- _____ (1) Accept. _____ (2) Accept an Identifiable Part.* _____ (3) Accept as modified by the TC.
_____ (4) Accept an Identifiable Part as modified by TC.* _____ (5) Reject _____ (6) Reject an Identifiable Part.*

(c) Return Technical Committee Report for Further Study

- _____ (1) Return entire Report. _____ (2) Return a portion of a Report in the form of a proposal and related comment(s).
_____ (3) Return a portion of a Report in the form of identifiable part(s) of a proposal and related comment(s). (Identify the specific portion of the proposal and the related comments below)*

* Clearly identify the Identifiable Part(s) indicated above (use separate sheet if required).

3. I am entitled to make this motion in accordance with 4.6.8 of the Regulations Governing Committee Projects, as follows: [(check (a), (b), or (c)].

(a) _____ This motion may be made by the original submitter or their designated representative, and I am the [(if you check (a) indicate one of the following)]:

___ I am the original submitter of the proposal or comment, or

___ I am the submitter's designated representative (attach written authorization signed by the original submitter)

(b) _____ This motion may be made by a Technical Committee Member and I am a Member of the responsible Technical Committee.

(c) _____ This motion may be made by anyone.

(Form continued on next page)

Sequence of Events Leading to Issuance of an NFPA Committee Document

Step 1 Call for Proposals

▼ Proposed new document or new edition of an existing document is entered into one of two yearly revision cycles, and a Call for Proposals is published.

Step 2 Report on Proposals (ROP)

▼ Committee meets to act on Proposals, to develop its own Proposals, and to prepare its Report.

▼ Committee votes by written ballot on Proposals. If two-thirds approve, Report goes forward. Lacking two-thirds approval, Report returns to Committee.

▼ Report on Proposals (ROP) is published for public review and comment.

Step 3 Report on Comments (ROC)

▼ Committee meets to act on Public Comments to develop its own Comments, and to prepare its report.

▼ Committee votes by written ballot on Comments. If two-thirds approve, Report goes forward. Lacking two-thirds approval, Report returns to Committee.

▼ Report on Comments (ROC) is published for public review.

Step 4 Association Technical Meeting

▼ "*Notices of intent to make a motion*" are filed, are reviewed, and valid motions are certified for presentation at the Association Technical Meeting. ("Consent Documents" that have no certified motions bypass the Association Technical Meeting and proceed to the Standards Council for issuance.)

▼ NFPA membership meets each June at the Association Technical Meeting and acts on Technical Committee Reports (ROP and ROC) for documents with "certified amending motions."

▼ Committee(s) vote on any amendments to Report approved at NFPA Annual Membership Meeting.

Step 5 Standards Council Issuance

▼ Notification of intent to file an appeal to the Standards Council on Association action must be filed within 20 days of the NFPA Annual Membership Meeting.

▼ Standards Council decides, based on all evidence, whether or not to issue document or to take other action, including hearing any appeals.

The Association Technical Meeting

The process of public input and review does not end with the publication of the ROP and ROC. Following the completion of the Proposal and Comment periods, there is yet a further opportunity for debate and discussion through the Association Technical Meeting that takes place at the NFPA Annual Meeting.

The Association Technical Meeting provides an opportunity for the final Technical Committee Report (i.e., the ROP and ROC) on each proposed new or revised code or standard to be presented to the NFPA membership for the debate and consideration of motions to amend the Report. The specific rules for the types of motions that can be made and who can make them are set forth in NFPA's rules, which should always be consulted by those wishing to bring an issue before the membership at an Association Technical Meeting. The following presents some of the main features of how a Report is handled.

The Filing of a Notice of Intent to Make a Motion. Before making an allowable motion at an Association Technical Meeting, the intended maker of the motion must file, in advance of the session, and within the published deadline, a Notice of Intent to Make a Motion. A Motions Committee appointed by the Standards Council then reviews all notices and certifies all amending motions that are proper. The Motions Committee can also, in consultation with the makers of the motions, clarify the intent of the motions and, in certain circumstances, combine motions that are dependent on each other together so that they can be made in one single motion. A Motions Committee report is then made available in advance of the meeting listing all certified motions. Only these Certified Amending Motions, together with certain allowable Follow-Up Motions (that is, motions that have become necessary as a result of previous successful amending motions) will be allowed at the Association Technical Meeting.

Consent Documents. Often there are codes and standards up for consideration by the membership that will be noncontroversial and no proper Notices of Intent to Make a Motion will be filed. These "Consent Documents" will bypass the Association Technical Meeting and head straight to the Standards Council for issuance. The remaining documents are then forwarded to the Association Technical Meeting for consideration of the NFPA membership.

What Amending Motions Are Allowed. The Technical Committee Reports contain many Proposals and Comments that the Technical Committee has rejected or revised in whole or in part. Actions of the Technical Committee published in the ROP may also eventually be rejected or revised by the Technical Committee during the development of its ROC. The motions allowed by NFPA rules provide the opportunity to propose amendments to the text of a proposed code or standard based on these published Proposals, Comments, and Committee actions. Thus, the list of allowable motions include motions to accept Proposals and Comments in whole or in part as submitted or as modified by a Technical Committee action. Motions are also available to reject an accepted Comment in whole or part. In addition, Motions can be made to return an entire Technical Committee Report or a portion of the Report to the Technical Committee for further study.

The NFPA Annual Meeting, also known as the NFPA Conference & Expo, takes place in June of each year. A second Fall membership meeting was discontinued in 2004, so the NFPA Technical Committee Report Session now runs once each year at the Annual Meeting in June.

Who Can Make Amending Motions. NFPA rules also define those authorized to make amending motions. In many cases, the maker of the motion is limited by NFPA rules to the original submitter of the Proposal or Comment or his or her duly authorized representative. In other cases, such as a Motion to Reject an accepted Comment, or to Return a Technical Committee Report or a portion of a Technical Committee Report for Further Study, anyone can make these motions. For a complete explanation, the NFPA Regs should be consulted.

Action on Motions at the Association Technical Meeting. In order to actually make a Certified Amending Motion at the Association Technical Meeting, the maker of the motion must sign in at least an hour before the session begins. In this way a final list of motions can be set in advance of the session. At the session, each proposed document up for consideration is presented by a motion to adopt the Technical Committee Report on the document. Following each such motion, the presiding officer in charge of the session opens the floor to motions on the document from the final list of Certified Amending Motions followed by any permissible Follow-Up Motions. Debate and voting on each motion proceeds in accordance with NFPA rules. NFPA membership is not required in order to make or speak to a motion, but voting is limited to NFPA members who have joined at least 180 days prior to the Association Technical Meeting and have registered for the meeting. At the close of debate on each motion, voting takes place, and the motion requires a majority vote to carry. In order to amend a Technical Committee Report, successful amending motions must be confirmed by the responsible Technical Committee, which conducts a written ballot on all successful amending motions following the meeting and prior to the document being forwarded to the Standards Council for issuance.

Standards Council Issuance

One of the primary responsibilities of the NFPA Standards Council, as the overseer of the NFPA codes and standards development process, is to act as the official issuer of all NFPA codes and standards. When it convenes to issue NFPA documents, it also hears any appeals related to the document. Appeals are an important part of assuring that all NFPA rules have been followed and that due process and fairness have been upheld throughout the codes and standards development process. The Council considers appeals both in writing and through the conduct of hearings at which all interested parties can participate. It decides appeals based on the entire record of the process as well as all submissions on the appeal. After deciding all appeals related to a document before it, the Council, if appropriate, proceeds to issue the document as an official NFPA code or standard. Subject only to limited review by the NFPA Board of Directors, the decision of the Standards Council is final, and the new NFPA code or standard becomes effective twenty days after Standards Council issuance.

Key to Comment Headings

The first line of every proposal includes the following information:

Document No.	Proposal No.	Log No.	Paragraph Reference	Committee Action
101	6	38	3.4	Accept

Example: 101-6 Log #38 **Final Action: Accept (3.4)**

TYPES OF ACTION

P Partial Revision **C** Complete Revision **N** New Document **R** Reconfirmation **W** Withdrawal

The following classifications apply to Committee members and represent their principal interest in the activity of the Committee.

1. **M** **Manufacturer:** A representative of a maker or marketer of a product, assembly, or system, or portion thereof, that is affected by the standard.
2. **U** **User:** A representative of an entity that is subject to the provisions of the standard or that voluntarily uses the standard.
3. **IM** **Installer/Maintainer:** A representative of an entity that is in the business of installing or maintaining a product, assembly, or system affected by the standard.
4. **L** **Labor:** A labor representative or employee concerned with safety in the workplace.
5. **RT** **Applied Research/Testing Laboratory:** A representative of an independent testing laboratory or independent applied research organization that promulgates and/or enforces standards.
6. **E** **Enforcing Authority:** A representative of an agency or an organization that promulgates and/or enforces standards.
7. **I** **Insurance:** A representative of an insurance company, broker, agent, bureau, or inspection agency.
8. **C** **Consumer:** A person who is or represents the ultimate purchaser of a product, system, or service affected by the standard, but who is not included in (2).
9. **SE** **Special Expert:** A person not representing (1) through (8) and who has special expertise in the scope of the standard or portion thereof.

NOTE 1: "Standard" connotes code, standard, recommended practice, or guide.

NOTE 2: A representative includes an employee.

NOTE 3: While these classifications will be used by the Standards Council to achieve a balance for Technical Committees, the Standards Council may determine that new classifications of member or unique interests need representation in order to foster the best possible Committee deliberations on any project. In this connection, the Standards Council may make such appointments as it deems appropriate in the public interest, such as the classification of "Utilities" in the National Electrical Code Committee.

NOTE 4: Representatives of subsidiaries of any group are generally considered to have the same classification as the parent organization.

Report of the Committee on

National Electrical Code[®] (NEC-AAC)**James W. Carpenter**, *Chair*

International Association of Electrical Inspectors, TX [E]

Mark W. Earley, *Secretary (Staff-Nonvoting)*
National Fire Protection Association, MA**Jean A. O'Connor**, *Recording Secretary (NV)*
National Fire Protection Association, MA**James E. Brunssen**, Telcordia, NJ [UT]

Rep. Alliance for Telecommunications Industry Solutions

Merton W. Bunker, Jr., US Department of State, VA [U]VL to Document: 110, Document: 111, Document: 70, Document: 70B,
Document: 70E, Document: 79**James M. Daly**, General Cable, NJ [M]

Rep. National Electrical Manufacturers Association

William R. Drake, Marinco, CA [M]**Stanley J. Folz**, Morse Electric Company, NV [IM]

Rep. National Electrical Contractors Association

Palmer L. Hickman, National Joint Apprentice & Training Committee,
MD [L]

Rep. International Brotherhood of Electrical Workers

John R. Kovacik, Underwriters Laboratories Inc., IL [RT]**Neil F. LaBrake, Jr.**, National Grid, NY [UT]

Rep. Electric Light & Power Group/EEI

Danny Liggett, DuPont Company, TX [U]

Rep. American Chemistry Council

Robert G. Wilkinson, IEC Texas Gulf Coast, TX [IM]

Rep. Independent Electrical Contractors, Inc.

Alternates

Thomas L. Adams, Engineering Consultant, IL [UT]

(Alt. to Neil F. LaBrake, Jr.)

Larry D. Cogburn, Cogburn Bros, Inc., FL [IM]

(Alt. to Stanley J. Folz)

James T. Dollard, Jr., IBEW Local Union 98, PA [L]

(Alt. to Palmer L. Hickman)

Ernest J. Gallo, Telcordia Technologies, Inc., NJ [UT]

(Alt. to James E. Brunssen)

David L. Hittinger, IEC of Greater Cincinnati, OH [IM]

(Alt. to Robert G. Wilkinson)

Daniel J. Kissane, Pass & Seymour/Legrand, NY [M]

(Alt. to James M. Daly) Rep.

Michael E. McNeil, FMC Bio Polymer, ME [U]

(Alt. to Danny Liggett)

Mark C. Ode, Underwriters Laboratories Inc., NC [RT]

(Alt. to John R. Kovacik)

Richard P. Owen, City of St. Paul, MN [E]

(Alt. to James W. Carpenter)

Nonvoting

David Mascarenhas, Canadian Standards Association, Canada [RT]
(Member Emeritus)**Richard G. Biermann**, Biermann Electric Company, Inc., IA [IM]
(Member Emeritus)**D. Harold Ware**, Libra Electric Company, OK [IM]
(Member Emeritus)Staff Liaison: **Mark W. Earley**

Committee Scope: This Committee shall have primary responsibility for documents on minimizing the risk of electricity as a source of electric shock and as a potential ignition source of fires and explosions. It shall also be responsible for text to minimize the propagation of fire and explosions due to electrical installations.

Report of the Committee on

Electrical Equipment Maintenance (EEM-AAA)

Richard Bingham, *Chair*

Dranetz-BMI, NJ [M]

Thomas H. Bishop, Electrical Apparatus Service Association, MO [IM]**Timothy Crnko**, Cooper Bussmann, MO [M]**Jeffrey Hall**, Underwriters Laboratories Inc., NC [RT]**Palmer L. Hickman**, National Joint Apprentice & Training Committee,
MD [L]

Rep. International Brotherhood of Electrical Workers

Michael J. Hittel, GM Worldwide Facilities Group, MI [U]**Alan Manche**, Square D Company/Schneider Electric, KY [M]

Rep. National Electrical Manufacturers Association

Ahmad A. Moshiri, Liebert Corporation, OH [M]**Ronald K. Mundt**, US Army Corps of Engineers, VA [U]**Melvin K. Sanders**, Things Electrical Co., Inc. (TECo., Inc.), IA [U]

Rep. Institute of Electrical & Electronics Engineers, Inc.

Robert Urdinola, US Department of State, DC [U]**Michael Velvikis**, High Voltage Maintenance Corporation, WI [IM]

Rep. InterNational Electrical Testing Association

James R. White, Shermco Industries, Inc., TX [IM]**Bruce G. Wyman**, Mount Snow Ltd., VT [U]

Alternates

David Goodrich, Liebert Corporation, OH [M]

(Alt. to Ahmad A. Moshiri)

David Huffman, Power Systems Testing Company, CA [IM]

(Alt. to Michael Velvikis)

Christopher E. Kelly, JATC for Nassau & Suffolk Counties, NY [L]

(Alt. to Palmer L. Hickman)

Greg T. Nienaber, Connector Manufacturing Company, OH [M]

(Voting Alt. to NEMA Rep.)

Dana K. Watts, Marathon Petroleum Company, KY [U]

(Alt. to Melvin K. Sanders)

Ron Widup, Shermco Industries, Inc., TX [IM]

(Alt. to James R. White)

Nonvoting

Albert J. Reed, Macungie, PA

(Member Emeritus)

Staff Liaison: **Jeffrey S. Sargent**

Committee Scope: This Committee shall have the primary responsibility for documents relating to preventive maintenance of electrical, electronic, and communications systems and equipment used in industrial and commercial type applications with the view of: (1) reducing loss of life and property, and (2) improving reliability, performance, and efficiency in a cost-effective manner. The purpose is to provide generally applicable procedures for preventive maintenance that have broad application to the more common classes of industrial and commercial systems and equipment without duplicating or superseding instructions that manufacturers normally provide. This Committee shall report to Technical Correlating Committee of the National Electrical Code.

These lists represent the membership at the time each Committee was balloted on the text of this report. Since that time, changes in the membership may have occurred. A key to classifications is found at the front of the document.

This portion of the Technical Committee Report of the Committee on **Electrical Equipment Maintenance** is presented for adoption.

This Report on Comments was prepared by the **Technical Committee on Electrical Equipment Maintenance**, and documents its action on the comments received on its Report on Proposals on NFPA 70B, **Recommended Practice for Electrical Equipment Maintenance**, 2006 edition, as published in the Report on Proposals for the 2009 Fall Revision Cycle.

This Report on Comments has been submitted to letter ballot of the **Technical Committee on Electrical Equipment Maintenance**, which consists of 15 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

This Report on Comments has also been submitted to the **Technical Correlating Committee on National Electric Code®** (TCC) in two Parts. Part I is a letter ballot on the TCC Actions, if any; and Part II is a letter ballot on the Report as a whole. The TCC, which consists of 11 voting members, voted as follows:

Since there were no TCC Actions, there is no ballot on Part 1.

Part 2: 11 voted affirmatively.

Mr. Hickman voted affirmatively with this comment:

We recommend that Chapter 7 be editorially revised to reflect the changes in NFPA 70E 2009 edition as a number of the references in NFPA 70B Chapter 7 refer to text and sections in the 2004 edition of NFPA 70E. These include, but are not limited to the following examples: 1) 7.1.3 (from the action on ROP Log #3) still uses the phrase “on th near” while the 2009 of NFPA 70E does not. 2) 7.1.3.1 (from the action of ROP Log #3) still references 110.4 as the section referencing multiemployer relationships. 100.4 in NFPA 70E 2009 no longer references multiemployer relationships.

70B-1 Log #1 EEM-AAA **Final Action: Reject**
(3.3.35 Ground-Fault Circuit-Interrupter (GFCI))

Submitter: James M. Daly, Upper Saddle River, NJ
Comment on Proposal No: 70B-5

Recommendation: Add a hyphen between “Circuit” and “Interrupter” and revise as follows:

3.3.35 Ground-Fault Circuit-Interrupter (GFCI). A device intended for the protection of personnel that functions to ~~de-energize~~ ~~deenergize~~ a circuit or portion thereof within an established period of time when a fault current to ground exceeds some predetermined value that is less than that required to operate the overcurrent protective device of the supply circuit, the values established for a Class A device. ~~Note: Class A Ground-Fault Circuit-Interrupters trip when the current to ground has a value in the range of 4 mA to 6 mA. For further information, see UL-943, Standard for Ground-Fault Circuit-Interrupters. [70, 2005]. This device will not provide personnel protection from electrocution resulting from line-to-line contact since the nature of line-to-line loads cannot be distinguished.~~

Substantiation: The revised definition complies with the following sections in the NFPA Manual of Style:

2.3.2.3 Definitions shall not contain requirements.

2.3.2.4 References to other documents or sections of a document, notes, lists, footnotes, cautions, warnings, or figures shall not be permitted in definitions.

If it is essential that a Class A GFCI be specified, then it should be done in the main body of the Code since there may be more than one class of GFCIs.

The addition of the last sentence is safety information to the user of the Standard.

The addition of the hyphen provides consistency throughout the Code.

This proposal is also intended to generate consistent definitions and minimize the number of duplicate definitions in the NFPA Glossary of Terms.

The proposed wording should meet the intent of 3 preferred and 2 secondary definitions used in 8 NFPA Standards.

Similar proposals are being submitted to NFPA 70, 70E, 73, 99, 99B, 302, and 1901.

Committee Meeting Action: Reject

Committee Statement: The committee reaffirms its action on Proposal 70B-5. The comment does not include new technical substantiation that justifies the committee changing its action on Proposal 70B-5.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-2 Log #57 EEM-AAA **Final Action: Hold**
(5.2)

Submitter: Michael A. Anthony, University of Michigan Plant Operations
Comment on Proposal No: 70B-7

Recommendation: Add item (3) as shown below.

5.2 Essential Elements of an EPM Program.

An EPM program should consist of the following essential elements:

- (1) Responsible and qualified personnel
- (2) Regularly scheduled inspection, testing and servicing of equipment
- (3) Inspection testing and servicing of equipment informed by a risk assessment and structured according to the conditioned-based maintenance methods described in Annex K.**

Substantiation: Regular, fixed interval testing is not necessarily risk-informed. Fixed interval testing, while easy to document, schedule and verify does always produce the intended result. Fixed interval testing can be over-testing, resulting in reduced resources available for more critical systems – in addition to increasing the likelihood of maintenance induced accidents and errors. Fixed interval testing may also have the unintended effect of retarding innovation in products by transferring the cost of the useful life of the product to the Owner rather than building it into the inherent life-cycle value of the product itself.

Acceptance of this comment will create a link between Annex K and the main body of this document and will suggest other ways to rationalize a preventive maintenance budget with the nature and condition of the system or occupancy.

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-2. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-3 Log #56 EEM-AAA **Final Action: Hold**
(5.3.4.1)

Submitter: Michael A. Anthony, University of Michigan Plant Operations
Comment on Proposal No: 70B-6

Recommendation: Add text as shown follows:

5.3.4.1 Design for Ease of Maintenance. Effective electrical preventive maintenance begins with good design. In the design of new facilities, a

conscious effort to ensure optimum maintainability is recommended. Dual circuits, tie circuits, auxiliary power sources, and drawout protective devices make it easier to schedule maintenance and to perform maintenance work with minimum interruption of production. Other effective design techniques include equipment rooms to provide environmental protection, grouping of equipment for more convenience and accessibility, grouping of load classes on a dedicated circuit and standardization of equipment and components.

Substantiation: Mixed load classes on medium voltage circuits are common in campus-style facilities. The condition evolves over time because of the increased cost of running bulk distribution circuits to buildings of the same occupancy type. Over time then, library and classroom buildings are on the same supply circuit as high rise health care and public safety office buildings; parking structures on the same circuit as central chiller plants that provide mission critical power. To the extent possible, planners of campus medium voltage distribution systems should try to partition these load classes – if for no other reason than to prioritize a load shedding regime back at the distribution switchgear in the district energy plant. Grouping of load classes would manage the economic affect of forced outages which will indirectly affect the manner in which restoration and maintenance objectives are achieved.

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-3. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-4 Log #58 EEM-AAA **Final Action: Hold**
(6.1.2(2))

Submitter: Michael A. Anthony, University of Michigan Plant Operations
Comment on Proposal No: 70B-8

Recommendation: Modify punctuation and add the words “and occupancies” as shown in underline below.

6.1.2 The following four basic steps should be taken in the planning and development of an EPM program. In their simplest form, they are as follows:

- (1) Compile a listing of all equipment and systems.
- (2) Determine which equipment, ~~and systems~~ and occupancies are most critical ~~and most important~~.

Substantiation: An electrical preventive maintenance program should be scaled to the risk to the occupancy. Many adopting organizations have virtually no additional money to comply with 70B recommendations but are opting to prioritize and to allocate resources to where the risk is greatest and where the probability of reducing adverse consequences is greatest. Some of the criteria that could be used by AHJ’s and insurance companies are:

- Facility classification. A distinction should be made between general business occupancies and health care and high-rise facilities. A preventive maintenance program for a college campus would be more robust in a place of assembly than in an off-site book storage warehouse.
- Permanent maintenance staff. A supervised installation may be more watchful of the conditions of maintenance and supervision; would be most familiar with baseline data and incident logs, and IT&M sampling strategies.
- Overall characteristics of the electrical system. The age of the system, availability of spare parts, and the nature of its supply source; system redundancy.

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-4. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-5 Log #59 EEM-AAA **Final Action: Reject**
(6.3.1.1)

Submitter: Michael A. Anthony, University of Michigan Plant Operations
Comment on Proposal No: 70B-8

Recommendation: Ahead of 6.3.1.1 insert the following text:

A supervised installation is a facility, or portion of a facility where each of the following conditions are met:

- (1) Conditions of design and installation are provided under engineering supervision.
- (2) Qualified persons with documented training and experience provide maintenance, monitoring, and servicing of the system.
- (3) Where electric service and electrical maintenance is continuously provided by a single building management

Revise 6.3.1.1 as follows:

6.3.1.1 A ~~large operation~~ supervised installation should use a team comprising the following personnel qualified people:

Substantiation: The term “supervised installation” has been derived from other appearances in NFPA documents. Integration of this comment into this part of the document, as well as in other parts of 70B, will recognize the economy of scale that many large organizations realize with a full-time, on-site EPM staff. A supervised installation that conforms to this criterion can be used to manage risk and rationalize insurance costs.

Committee Meeting Action: **Reject**

Committee Statement: The submitter recognizes that the term “Supervised Installation” is used in other NFPA documents. However, the recommendation imposes conditions that are more restrictive than is required in the other documents where this term is used.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-6 Log #60 EEM-AAA **Final Action: Reject**
(6.5.2.2)

Submitter: Michael A. Anthony, University of Michigan Plant Operations
Comment on Proposal No: 70B-8

Recommendation: Add text as shown below; renumber as required:

6.5.2.2 The IT&R procedure folder for a piece of equipment should list the following items:

(000) Instructions for de-energizing the equipment

(00) Conditions under which the system or equipment may be serviced or maintained while energized.

(0) A blank “hot work” permit

(1) All the special tools, materials, and equipment necessary to do the job...

Substantiation: Electrical professionals should not be working on energized equipment. This proposal reminds the user of the paper necessary to perform EPM while energized.

Committee Meeting Action: **Reject**

Committee Statement: The proposed language/procedures are addressed in NFPA 70E as appropriate safe work practices. Placing a blank “hot work” permit in the folder invites hot work. Instructions for de-energizing the equipment may change based on the electrical system configuration and must be addressed within the guidelines of NFPA 70E.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-7 Log #61 EEM-AAA **Final Action: Reject**
(9.1.1.3)

Submitter: Michael A. Anthony, University of Michigan Plant Operations
Comment on Proposal No: 70B-26

Recommendation: Add text as follows:

9.1.1.3 The recommended frequency of maintenance depends on the environment in which the substation is operating and the criticality of the circuit that it controls. In many cases, it is an outdoor installation and exposed to the atmospheric contaminations in the neighborhood. In areas of industrial contamination or in coastal areas where ocean vapors are prevalent, inspections are recommended at intervals of 6 weeks to 2 months. Less frequent inspections are recommended in areas of relatively clean atmosphere. Maintenance frequency should be based upon any one, or a combination of the following:

(1) the maintenance activities and intervals recommended by the equipment manufacturer

(2) the applicable ANSI/IEEE product standard

(3) any conditions of use requirements established by the authority having jurisdiction

(4) information provided in Annex H of this document

(5) the results of a condition-based maintenance program as described in Annex K.

Substantiation: This paragraph mixes inspection concepts with maintenance frequencies. Inspection and maintenance are not the same activities. The suggested text presents more specific criterion for maintenance frequencies of medium voltage installations. This comment draws a line under “one-size-fits-all” maintenance frequencies that can: a) increase maintenance-induced errors on the one hand, and b) reduce maintenance budgets for riskier, more critical systems on the other.

Committee Meeting Action: **Reject**

Committee Statement: The recommended text provides a level of detail that is not appropriate for this introductory section. There are other provisions in the document such as those contained in Section 9.2.2, that provide the more detailed requirements on the frequency of maintenance.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-8 Log #14 EEM-AAA **Final Action: Reject**
(9.9.4.1, 9.9.4.1.1, and 9.9.4.1.2)

Submitter: Stephen McCluer, APC by Schneider Electric
Comment on Proposal No: 70B-36

Recommendation: Revise and combine 9.9.4.1 and 9.9.4.1.1. Delete 9.9.4.1.2

9.9.4.1 General. Stationary batteries are a primary power source for critical systems; ac power generation equipment, switchgear, and control circuits. Stationary batteries also provide backup power for essential equipment during outages of the primary power supply. Because these applications require reliable service, stationary batteries should be serviced regularly. The maintenance required depends on each battery’s application, type, construction features and materials, and environment.

— 9.9.4.1.1 Lead-acid batteries are of two technologies: flooded wet cell design and sealed valve regulated lead-acid (VRLA) designs. Stationary batteries are typically lead-acid batteries with lead-antimony or lead-calcium grids. Some stationary batteries are nickel-cadmium (Ni-Cad) units. VRLA batteries have a shorter service life than flooded cells; cannot be tested in the same manner, and are not addressed in this document.

Battery chargers play a critical role in battery maintenance because they supply normal dc requirements and maintain batteries at appropriate levels of charge. Chargers should be set and maintained according to manufacturers’ instructions.

General. Stationary batteries are most often used as the reserve power source for critical equipment during power outages. These batteries are typically vented lead-acid (VLA) batteries consisting of either lead calcium or lead-antimony grids. Other technologies may be utilized in these applications but are not specifically addressed in the following paragraphs. Due to the reliability requirements for these applications, specific safety guidelines as well as well defined maintenance practices should be utilized to ensure a reliable system. The following sections offer guidance on the safety and maintenance requirements. In addition, the manufacturers’ recommendations should be followed and the appropriate IEEE standards referenced for additional information.

Substantiation: In their edit of 9.9.4, we would like to have seen the 70B committee’s proposal combine paragraphs 9.9.4.1 and 9.9.4.1.1. The existing “General” paragraph does not summarize the intent of Section 9.9.4. It mentions things that are not actually discussed later. Paragraph 9.9.4.1.2 can be deleted as it is commentary and adds no guidance for procedures. Chargers should be beyond the scope of para 9.9.4., which is actually about batteries with only the briefest mention of chargers. Almost all batteries used in substation and switchgear applications are lead-acid, with an occasional VRLA or Ni-Cd (described as “other technologies” in this comment). Many of the subsequent paragraphs in the 2006 and the proposed 2010 editions address only vented lead-acid batteries.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:

Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: **Reject**

Committee Statement: The comment is submitted on the incorrect proposal. The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-9.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-9 Log #20 EEM-AAA **Final Action: Hold**
(9.9.4.1, 9.9.4.1.1, and 9.9.4.1.2)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise and combine 9.9.4.1 and 9.9.4.1.1. Delete 9.9.4.1.2

9.9.4.1 General. Stationary batteries are a primary power source for critical systems; ac power generation equipment, switchgear, and control circuits. Stationary batteries also provide backup power for essential equipment during outages of the primary power supply. Because these applications require reliable service, stationary batteries should be serviced regularly. The maintenance required depends on each battery’s application, type, construction features and materials, and environment.

— 9.9.4.1.1 Lead-acid batteries are of two technologies: flooded wet cell design and sealed valve regulated lead-acid (VRLA) designs. Stationary batteries are typically lead-acid batteries with lead-antimony or lead-calcium grids. Some stationary batteries are nickel-cadmium (Ni-Cad) units. VRLA batteries have a shorter service life than flooded cells; cannot be tested in the same manner, and are not addressed in this document.

Battery chargers play a critical role in battery maintenance because they supply normal dc requirements and maintain batteries at appropriate levels of charge. Chargers should be set and maintained according to manufacturers’ instructions.

General. Stationary batteries are most often used as the reserve power source for critical equipment during power outages. These batteries are typically vented lead-acid (VLA) batteries consisting of either lead calcium or lead-antimony grids. Other technologies may be utilized in these applications but are not specifically addressed in the following paragraphs. Due to the reliability requirements for these applications, specific safety guidelines as well as well defined maintenance practices should be utilized to ensure a reliable system. The following sections offer guidance on the safety and maintenance requirements. In addition, the manufacturers' recommendations should be followed and the appropriate IEEE standards referenced for additional information.

Substantiation: In their edit of 9.9.4, we would like to have seen the 70B committee's proposal combine paragraphs 9.9.4.1 and 9.9.4.1.1. The existing "General" paragraph does not summarize the intent of Section 9.9.4. It mentions things that are not actually discussed later. Paragraph 9.9.4.1.2 can be deleted as it is commentary and adds no guidance for procedures. Chargers should be beyond the scope of para 9.9.4., which is actually about batteries with only the briefest mention of chargers. Almost all batteries used in substitution and switchgear applications are lead-acid, with an occasional VRLA or Ni-Cd (described as "other technologies" in this comment). Many of the subsequent paragraphs in the 2006 and the proposed 2010 editions address only vented lead-acid batteries.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries
Committee Meeting Action: Hold
Committee Statement: The committee action is to hold Comment 70B-9. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-10 Log #17 EEM-AAA **Final Action: Reject**
(9.9.4.2)

Submitter: Stephen McCluer, APC by Schneider Electric
Comment on Proposal No: 70B-36

Recommendation: Revise text to read as follows:

Maintenance Program. Battery maintenance normally consists of periodic inspections and tests. As a minimum, a maintenance program should be established based on manufacturers' installation & operation manuals. Ideally, other standards such as IEEE recommended practices applicable to the battery design may also be consulted, as these are frequently called out in the manufacturer's manuals. For further information on testing see 21.14, *Battery Testing*. Visual inspections include checking electrolyte level and internal conditions in jar-type cells. Many battery problems can be detected by visual inspections. Tests aid in evaluating performance and permit comparisons with standards and with historical test results. Battery manufacturers are good sources of information for maintenance programs.

Substantiation: Delete the last 4 sentences of 9.9.4.2 as they do not give any specifics about what visual inspection should look for on any given type of battery or how to interpret what is observed. Procedures will vary from one battery technology to another. Detailed procedures are provided by the battery manufacturers and/or standards written specifically for the type of battery. IEEE standards are the most commonly referenced standards for stationary battery installation and maintenance.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:

Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The comment is submitted on the incorrect proposal. The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-11.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-11 Log #21 EEM-AAA **Final Action: Hold**
(9.9.4.2)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Maintenance Program. Battery maintenance normally consists of periodic inspections and tests. As a minimum, a maintenance program should be established based on manufacturers' installation & operation manuals. Ideally, other standards such as IEEE recommended practices applicable to the battery design may also be consulted, as these are frequently called out in the manufacturer's manuals. For further information on testing see 21.14, *Battery Testing*. Visual inspections include checking electrolyte level and internal conditions in jar-type cells. Many battery problems can be detected by visual inspections. Tests aid in evaluating performance and permit comparisons with standards and with historical test results. Battery manufacturers are good sources of information for maintenance programs.

Substantiation: Delete the last 4 sentences of 9.9.4.2 as they do not give any specifics about what visual inspection should look for on any given type of battery or how to interpret what is observed. Procedures will vary from one battery technology to another. Detailed procedures are provided by the battery manufacturers and/or standards written specifically for the type of battery. IEEE standards are the most commonly referenced standards for stationary battery installation and maintenance.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-11. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-12 Log #11 EEM-AAA **Final Action: Reject**
(9.9.4.3)

Submitter: Stephen McCluer, APC by Schneider Electric

Comment on Proposal No: 70B-36

Recommendation: Revise text to read as follows:

Safety Guidelines. Personnel should be aware of the hazards associated with stationary batteries. A battery can produce and emit a mixture of hydrogen and oxygen gas that is explosive. A vented battery emits a mixture of hydrogen and oxygen gas. Under abnormal conditions, such as a lack of space ventilation, it is possible for the mixture to reach a flammable level. Exposing skin and eyes to electrolyte can cause severe burns and blindness. Voltages present can cause injury and death. As a minimum, the safety precautions in 9.9.4.3.1 through 9.9.4.3.7 should be observed.

Substantiation: The existing language of 9.9.4.3 exaggerates the hazards. A vented battery that is properly installed, maintained, and operated in a properly ventilated space will not create explosive levels of gas. It is only under abnormal conditions that such a condition can occur.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The comment is submitted on the incorrect proposal.

The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-13.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-13 Log #22 EEM-AAA **Final Action: Hold**
(9.9.4.3)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Safety Guidelines. Personnel should be aware of the hazards associated with stationary batteries. A battery can produce and emit a mixture of hydrogen and oxygen gas that is explosive. A vented battery emits a mixture of hydrogen and oxygen gas. Under abnormal conditions, such as a lack of space ventilation, it is possible for the mixture to reach a flammable level. Exposing skin and eyes to electrolyte can cause severe burns and blindness. Voltages present can cause injury and death. As a minimum, the safety precautions in 9.9.4.3.1 through 9.9.4.3.7 should be observed.

Substantiation: The existing language of 9.9.4.3 exaggerates the hazards. A vented battery that is properly installed, maintained, and operated in a properly

ventilated space will not create explosive levels of gas. It is only under abnormal conditions that such a condition can occur.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-13. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-14 Log #18 EEM-AAA **Final Action: Reject**
(9.9.4.3.1)

Submitter: Stephen McCluer, APC by Schneider Electric

Comment on Proposal No: 70B-36

Recommendation: Revise text to read as follows:

Maintenance personnel should be trained to perform the tasks properly – ~~Training should include using personal protective equipment, handling the electrolyte safely, using the proper tools, and following the battery manufacturer's service and maintenance instructions and recommended tools.~~

Substantiation: This list in 9.9.4.3.1 is not all-inclusive. Refer to the manufacturer's instructions for the skills required for a specific battery technology, and which frequently refer to other standards such as IEEE battery standards and NFPA 70E. The latter go into more detail about the levels and types of skills required. IEEE draft Standard 1657, which will be published prior to the next edition of NFPA 70B, gives detailed curriculum for certifying battery technicians.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The comment is submitted on the incorrect proposal. The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-15.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-15 Log #23 EEM-AAA **Final Action: Hold**
(9.9.4.3.1)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Maintenance personnel should be trained to perform the tasks properly – ~~Training should include using personal protective equipment, handling the electrolyte safely, using the proper tools, and following the battery manufacturer's service and maintenance instructions and recommended tools.~~

Substantiation: This list in 9.9.4.3.1 is not all-inclusive. Refer to the manufacturer's instructions for the skills required for a specific battery technology, and which frequently refer to other standards such as IEEE battery standards and NFPA 70E. The latter go into more detail about the levels and types of skills required. IEEE draft Standard 1657, which will be published prior to the next edition of NFPA 70B, gives detailed curriculum for certifying battery technicians.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-15. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-16 Log #24 EEM-AAA **Final Action: Hold**
(9.9.4.3.2)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete the following text:

~~The room or compartment in which operating lead-acid batteries are located should be ventilated adequately.~~

Substantiation: Delete 9.9.4.3.2

This is a design issue, not a maintenance issue.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-16. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-17 Log #8 EEM-AAA **Final Action: Reject**
(9.9.4.3.3)

Submitter: Stephen McCluer, APC by Schneider Electric

Comment on Proposal No: 70B-36

Recommendation: Revise text to read as follows:

~~Appropriate safety equipment should be worn used in accordance with NFPA 70E and manufacturer's instructions. , including goggles, gloves, and aprons, by persons working with the batteries. Eyewash and quick drench facilities should be provided near the batteries.~~

Substantiation: NFPA 70E and battery manufacturers specify the safety equipment and tools for battery installation and maintenance. Provision for eye wash stations is a design issue, not a maintenance function. NFPA 70E (240.2) requires installation and proper functioning of eye wash equipment.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The comment is submitted on the incorrect proposal. The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-18.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-18 Log #25 EEM-AAA **Final Action: Hold**
(9.9.4.3.3)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

~~Appropriate safety equipment should be worn used in accordance with NFPA 70E and manufacturer's instructions. , including goggles, gloves, and aprons, by persons working with the batteries. Eyewash and quick drench facilities should be provided near the batteries.~~

Substantiation: NFPA 70E and battery manufacturers specify the safety equipment and tools for battery installation and maintenance. Provision for eye wash stations is a design issue, not a maintenance function. NFPA 70E (240.2) requires installation and proper functioning of eye wash equipment.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-18. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a

concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-19 Log #15 EEM-AAA **Final Action: Reject**
(9.9.4.3.4)

Submitter: Stephen McCluer, APC by Schneider Electric
Comment on Proposal No: 70B-36

Recommendation: Revise text to read as follows:

Open flames, sparks, hot plates, and other ignition sources should be kept away from storage batteries, gas ventilation paths, and places where hydrogen can accumulate.

Substantiation: Delete “hot plates” as it is not necessary and typically would not be in a battery room in the first place. A hot plate would qualify as just one example of many “other ignition sources.”

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The comment is submitted on the incorrect proposal. The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-20.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-20 Log #26 EEM-AAA **Final Action: Hold**
(9.9.4.3.4)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Open flames, sparks, hot plates, and other ignition sources should be kept away from storage batteries, gas ventilation paths, and places where hydrogen can accumulate.

Substantiation: Delete “hot plates” as it is not necessary and typically would not be in a battery room in the first place. A hot plate would qualify as just one example of many “other ignition sources.”

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-20. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-21 Log #9 EEM-AAA **Final Action: Reject**
(9.9.4.3.5)

Submitter: Stephen McCluer, APC by Schneider Electric
Comment on Proposal No: 70B-36

Recommendation: Revise text to read as follows:

Metal Conductive objects should not be placed on used near battery cells. Insulated tools should be used to protect against shorting of cells.

Substantiation: 9.9.4.3.5 could be deleted entirely as it would be addressed in 9.9.4.3.1. Replace “metal” with “conductive,” as objects can be conductive but not necessarily metal. Conductive objects should not be placed on or used near the conductive elements of a battery system.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The comment is submitted on the incorrect proposal. The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-22.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-22 Log #27 EEM-AAA **Final Action: Hold**
(9.9.4.3.5)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Metal Conductive objects should not be placed on used near battery cells. Insulated tools should be used to protect against shorting of cells.

Substantiation: 9.9.4.3.5 could be deleted entirely as it would be addressed in 9.9.4.3.1. Replace “metal” with “conductive,” as objects can be conductive but not necessarily metal. Conductive objects should not be placed on or used near the conductive elements of a battery system.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-22. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-23 Log #16 EEM-AAA **Final Action: Reject**
(9.9.4.3.6)

Submitter: Stephen McCluer, APC by Schneider Electric
Comment on Proposal No: 70B-36

Recommendation: Delete the following text:

~~When electrolyte is being prepared, personal protective equipment should include a full face shield. POUR ACID INTO WATER, NOT WATER INTO ACID. If the electrolyte comes in contact with skin or eyes, the affected area should be immediately flushed with water and medical assistance obtained~~

Substantiation: Delete this paragraph. Mixing acid and water in the field is not a standard practices (is really the rare exception). Most often we just add water to a cell. When electrolyte is required, it is almost always obtained from the manufacturer in the proper specific gravity.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The comment is submitted on the incorrect proposal. The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-24.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-24 Log #28 EEM-AAA **Final Action: Hold**
(9.9.4.3.6)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete the following text:

~~When electrolyte is being prepared, personal protective equipment should include a full face shield. POUR ACID INTO WATER, NOT WATER INTO ACID. If the electrolyte comes in contact with skin or eyes, the affected area should be immediately flushed with water and medical assistance obtained~~

Substantiation: Delete this paragraph. Mixing acid and water in the field is not a standard practices (is really the rare exception). Most often we just add water to a cell. When electrolyte is required, it is almost always obtained from the manufacturer in the proper specific gravity.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D

Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-24. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-25 Log #10 EEM-AAA **Final Action: Reject**
(9.9.4.3.7)

Submitter: Stephen McCluer, APC by Schneider Electric
Comment on Proposal No: 70B-36

Recommendation: Revise text to read as follows:

Unauthorized access to the battery area exposed batteries should be prohibited

Substantiation: This is only applicable when the batteries are located in a battery room or other restricted area in which batteries are installed in open racks. Often batteries are collocated with other equipment where access is required by several technical and operating personnel, in which case batteries are typically secured in cabinets. In these cases, appropriate warning signs should be displayed.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The comment is submitted on the incorrect proposal. The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-26.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-26 Log #29 EEM-AAA **Final Action: Hold**
(9.9.4.3.7)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Unauthorized access to the battery area exposed batteries should be prohibited

Substantiation: This is only applicable when the batteries are located in a battery room or other restricted area in which batteries are installed in open racks. Often batteries are collocated with other equipment where access is required by several technical and operating personnel, in which case batteries are typically secured in cabinets. In these cases, appropriate warning signs should be displayed.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-26. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-27 Log #30 EEM-AAA **Final Action: Hold**
(9.9.4.4)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Guide for Visual, Mechanical and Electrical Inspections and Associated Servicing:

Substantiation: Reword the title of paragraph 9.9.4.4. to clarify that it is for visual inspections only, of both mechanical and electrical equipment. Delete “associated servicing” as this is included in other paragraphs.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-27.

This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-28 Log #31 EEM-AAA **Final Action: Hold**
(9.9.4.4.1)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

~~Jars~~ Containers and covers should be checked for cracks and structural damage. ~~Maintenance of flame arrester-type vent caps should consist of rinsing them in clear water and air drying.~~ Damaged units and damaged or missing removable vent caps should be replaced.

Substantiation: The slang term “jars” is technically incorrect; the term “container” should be substituted wherever the term “jars” is used in this document.

Cleaning of flame arrestors is not a standard battery maintenance routine and is not recommended as it can introduce contaminants into the electrolyte, it can create a potentially hazardous condition if flame arrestors are removed more than briefly, and flame arrester vent caps cannot be serviced on VRLA or similar batteries. Damaged or missing vent caps should be replaced.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-28.

This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-29 Log #32 EEM-AAA **Final Action: Hold**
(9.9.4.4.2)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Plates and internal parts of within clear-jars containers should be checked for damages such as buckling, warping, scaling, swelling, cracking, hydration rings, excessive sedimentation, mossing, copper contamination, internal post seal cracks, and changes in color. Damaged Questionable cells should be re-replaced.evaluated for repair or replacement.

Substantiation: The term “jars” is technically incorrect; the term “container” should be used wherever the term “jars” is used in this document. Internal parts should also be checked for a lot more than what is presently identified. Sometimes minor damage can be repaired. Some degree of battery defect can be tolerated or repaired.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-29. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-30 Log #33 EEM-AAA **Final Action: Hold**
(9.9.4.4.3)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

~~The charger should be checked for proper operation.~~ Interconnection cables, cell connectors, and other conductors should be examined for wear, contamination, corrosion, and discoloration. Racks should be checked for corrosion, cleanliness, proper grounding, and structural integrity.

Substantiation: Chargers should be removed from this section of the document (see previous proposal on para 9.9.4) Grounding can also be affected by the same issues cited in the previous sentence.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-30.

This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-31 Log #34 EEM-AAA **Final Action: Hold**
(9.9.4.4.4)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

A check should be made for spilled electrolyte. A solution of water and bicarbonate of soda (baking soda) solution should be used to neutralize lead-acid battery spills, and a boric acid and water solution should be used for Ni-Cad spills in accordance with the battery manufacturer's instructions.

Substantiation: Battery manufacturer's would indicate the proper solution and dilution.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-31.

This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-32 Log #35 EEM-AAA **Final Action: Hold**
(9.9.4.4.5)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

The electrolyte level before water addition, should be checked and corrective measures should be noted in accordance with the owner's maintenance program and the manufacturer's recommendations. ~~It should be determined that electrolyte and cells are clear, with minimal deposits, gassing, or rings, and that~~

~~there is only minor sediment below the plates. The amounts of water added to the cells should be recorded. Excessive water consumption can be a sign of overcharging or cell damage.~~ For lead-antimony batteries, water consumption increases gradually with age. Distilled or deionized water should be used unless otherwise recommended by the battery manufacturer.

CAUTION: Never add ~~acid anything but water~~ to a battery ~~when refilling— unless recommended to do so by the manufacturer.~~

Substantiation: It is assumed that there is already a maintenance program established to address inspection and recording of electrolyte levels.

The items in the second sentence are already addressed in previous paragraphs (see 9.9.4.4.2)

The 3rd sentence is already addressed w/ revisions to the 1st sentence.

re: 4th sentence: Partial cell shorts can cause excessive water consumption.

In large battery installations it can often be less expensive to install deionization equipment than to buy distilled water for battery watering. Properly maintained deionization equipment can and does provide perfectly suitable water for batteries.

re Caution: delete the words “when refilling” as they are not needed. Acid, electrolyte, or anything else should not be added unless specifically instructed to do so by the manufacturer.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-32.

This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-33 Log #36 EEM-AAA **Final Action: Hold**
(9.9.4.4.6)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Ventilation and the suitability and condition of electrical equipment in the area should be checked for its possible effect on the battery. ~~Battery proximity to combustibles and ignition sources should be evaluated.~~ Local sources of heating and cooling can create cell temperature differentials that cause battery damage. Battery room ventilation openings should be checked to be sure they are clear of obstructions.

Substantiation: Both heating and cooling - or lack thereof - can affect battery performance.

The 2nd sentence is addressed in para 9.9.4.3. 4

Add the final sentence, which is moved from 9.9.4.4.13 because it fits better here.

Note: Most of this paragraph addresses installation issues more than maintenance issues.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-33.

This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-34 Log #37 EEM-AAA **Final Action: Hold**
(9.9.4.4.7)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Ambient temperature should be checked to be within the manufacturer's recommended range. For example, the optimum ambient operating temperature for lead-acid batteries is 20-25°C (68 - 77°F). Ni-Cad batteries can operate satisfactorily over a greater range of temperatures, generally from 25°C to 45°C (77-113°F). High ambient temperatures reduce cell life. Every 9.84°C (15°F) increase in temperature above 25°C (77°F) can reduce lead-acid cell life by up to 50 percent and Ni-Cad cell life by up to 20 percent. Lower ambient cell temperatures reduce cell capacity (A lead-acid battery operating at 16°C (60°F) loses about 10 percent of its designed capacity).

Substantiation: Most of the statements made in 9.9.4.4.7 are design issues, not maintenance issues. The values cited can vary from one manufacturer to another depending upon many variables. The technician should make sure that ambient temperature is within the range specified by the battery manufacturer.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance; Allen Byrne / International Batteries; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-34. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-35 Log #38 EEM-AAA **Final Action: Reject**
(9.9.4.4.8)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete the following text:

~~Area heating, air conditioning, seismic protection, dc circuit overcurrent protection, distilled water supply, alarm circuits, grounding connections, cable clamps, and all other installed protective systems and devices should be checked.~~

Substantiation: This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance; Allen Byrne / International Batteries; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: In accordance with Section 4.4.5(d) of the NFPA Regulations Governing Committee Projects this comment is rejected because it does not include technical substantiation to support the recommendation.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-36 Log #39 EEM-AAA **Final Action: Hold**
(9.9.4.4.9 (New))

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Insert a new 9.9.4.4.9 and renumber all subsequent paragraphs.

Verify that voltage potential between the battery's most positive and most negative terminals is within the manufacturer's recommended float voltage range for the observed ambient temperature.

Substantiation: High or low voltage can be a sign of charger failure, improper setting, charger malfunction, or excessive voltage drop in the wiring. This paragraph addresses charger issues.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance; Allen Byrne / International Batteries; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-36. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-37 Log #40 EEM-AAA **Final Action: Hold**
(9.9.4.4.10 [formerly 9.9.4.5.2])

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

Lead-acid battery surfaces should be cleaned with a mild solution of water and sodium bicarbonate to avoid leakage currents caused by electrolyte on the battery. Ni-Cad battery surfaces should be cleaned with a solution of boric acid and water. solution. Cleaners, soaps, or solvents should not be used to clean battery containers, jars and covers, since damage can result. Consult the battery manufacturer for the proper solution and dilution.

Substantiation: Battery manufacturer's would indicate the proper solution and dilution.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance; Allen Byrne / International Batteries; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-37. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-38 Log #41 EEM-AAA **Final Action: Hold**
(9.9.4.4.11 [formerly 9.9.4.5.3])

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Revise text to read as follows:

The intercell connectors (links) should be checked annually and torqued to specified values.

All battery connections should be checked on a routine basis for high connection resistance. When a connection resistance is high then the connections should be cleaned and re-torqued in accordance with the manufacturer's procedures.

Substantiation: Many manufacturers no longer recommend to re-torque annually as this practice leads to deformation and over-stressing of the posts. Furthermore, it does not guarantee a good connection.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance; Allen Byrne / International Batteries; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-38. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-39 Log #42 EEM-AAA **Final Action: Reject**
(9.9.4.4.12 [formerly 9.9.4.5.4])

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete the following text:

9.9.4.4.12 Alarm relays, lights, and horns should be checked for proper operation. The battery room emergency lighting should be checked.

Substantiation: Delete this paragraph as it adds no clear instruction. No guidance is given for what to check for or where to get the information. All of these should be addressed in detail in the owner's maintenance program manual.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The current text provides direction on the requisite verification. Emergency lighting performance is subject to other periodic testing requirements such as those contained in NFPA 101, Life Safety Code.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-40 Log #43 EEM-AAA **Final Action: Hold**
(9.9.4.4.13 [formerly 9.9.4.5.5])

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete text as follows:

9.9.4.4.13 Battery room ventilation openings should be checked to be sure they are clear of obstructions.

Substantiation: Delete this paragraph and move the statement to 9.9.4.4.6 where ventilation is addressed.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-40. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-41 Log #44 EEM-AAA **Final Action: Hold**
(9.9.4.5.1 [formerly 9.9.4.6.1])

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete the following text:

9.9.4.5.1 Excessive gassing can result from overcharging.

Substantiation: Delete paragraph 9.9.4.5.1. It is addressed in 9.9.4.3.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-41. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 14
Ballot Not Returned: 1 Nienaber, G.

70B-42 Log #45 EEM-AAA **Final Action: Hold**
(9.9.4.5.2 [formerly 9.9.4.6.2])

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete the following text:

9.9.4.5.2 Vibration reduces battery life. Excessive vibration can be detected by observing vibration of plates and sediment in the jar.

Substantiation: Vibration does reduce life, but it is more likely to be a problem before it can be detected by visual observation. If construction next door or some other source of vibration causes excess sedimentation or plate cracking, there is not much that a maintenance technician can do about it.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-42. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-43 Log #46 EEM-AAA **Final Action: Hold**
(9.9.4.5.3 [formerly 9.9.4.6.3])

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete the following text:

9.9.4.5.3 A lead-acid battery electrolyte begins to freeze at -29°C (-20°F), but it can freeze at warmer temperatures if its specific gravity is low. Once ice crystals form, damage to the cell is irreparable.

Substantiation: The statement in 9.9.4.5.3 adds no value, and the values stated are technically incorrect anyway because the freezing point is a function of the specific gravity of the battery electrolyte. If a battery is installed into an environment that is so far below the manufacturer's recommended operating temperature that it freezes, this is not a service issue but an application design issue. If the water in the battery freezes, the technician already knows he has a problem.

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-43. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-44 Log #47 EEM-AAA **Final Action: Hold**
(9.9.4.5.4 [formerly 9.9.4.6.4])

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete the following text:

9.9.4.5.4 Hydration occurs when a lead-acid battery is overdischarged without an immediate recharge, or when a dry-charge battery is accidentally filled with water. A sign of hydration is a whitish ring in the jar, which eventually shorts the positive and negative plates. Hydration is an irreversible condition.

Substantiation: The statement in 9.9.4.5.4, while generally correct, is tutorial and give no guidance for corrective action. Inspection for hydration rings was covered previously in our proposal for 9.9.4.4.2

This comment is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies Inc.; Curtis Ashton/ Qwest Communications; Gary Balash/ East Penn Mfg; Thomas Carpenter/ Aerospace Testing Alliance ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Power; Chris Searles/ BAE Batteries; Dan McMenamin/DMA; Ron Marts/Telcordia; Russell Miller/ Douglas Battery; John Polenz/ Emerson Network Equipment; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-44. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-45 Log #48 EEM-AAA **Final Action: Hold**
(9.9.4.5.5 [formerly 9.9.4.6.5])

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-26

Recommendation: Delete the following text:

~~Overcharging of lead-acid cells or charging at excessive rates leads to mossing. Mossing is the development of sponge-like material high on the negative plates and the resulting sedimentation in the cells. Continued mossing shorts out the plates.~~

Substantiation: The statement in 9.9.4.5.5, while generally correct, is tutorial and gives no guidance for corrective action. Inspection for mossing was covered previously in our proposal for 9.9.4.4.2.

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-45.

This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-46 Log #13 EEM-AAA **Final Action: Reject**
(13.4.1(7) (New))

Submitter: Stephen McCluer, APC by Schneider Electric

Comment on Proposal No: 70B-36

Recommendation: Delete the following text:

~~The room or compartment in which operating lead-acid batteries are located should be ventilated adequately.~~

Substantiation: Delete 9.9.4.3.2

This is a design issue, not a maintenance issue.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The comment is submitted on the incorrect proposal. The correct proposal covering this chapter is 70B-26. See the committee action on Comment 70B-16. The committee notes that the comment is directed at Section 9.9.4.3.2 in the 2006 edition of NFPA 70B.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-47 Log #12 EEM-AAA **Final Action: Accept**
(21.14.1)

Submitter: Stephen McCluer, APC by Schneider Electric

Comment on Proposal No: 70B-46

Recommendation: Add new text to read as follows:

5) IEEE 1106, Recommended Practice for Installation, Maintenance, Testing, and Replacement of Vented Nickel-Cadmium Batteries for Stationary Applications

Substantiation: Ni-Cd batteries are sometimes used in these applications.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka

Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Accept

Committee Statement:

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-48 Log #49 EEM-AAA **Final Action: Accept**
(21.14.1)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-46

Recommendation: Add new text to read as follows:

5) IEEE 1106, Recommended Practice for Installation, Maintenance, Testing, and Replacement of Vented Nickel-Cadmium Batteries for Stationary Applications

Substantiation: Ni-Cd batteries are sometimes used in these applications.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Accept

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-49 Log #7 EEM-AAA **Final Action: Accept**
(21.14.2.1)

Submitter: Stephen McCluer, APC by Schneider Electric

Comment on Proposal No: 70B-46

Recommendation: Change the 2nd sentence

For lead-acid batteries, a pilot cell ~~should~~ may be selected to obtain a representative temperature while the recommended voltage and specific gravity measurements are made

Substantiation: Pilot cell use is recommended but is not mandatory. It is more beneficial for lead-antimony than for lead-calcium batteries, both of which are variations of lead-acid batteries.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Accept

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-50 Log #50 EEM-AAA **Final Action: Accept**
(21.14.2.1)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-46

Recommendation: Revise the 2nd sentence as follows:

For lead-acid batteries, a pilot cell ~~should~~ may be selected to obtain a representative temperature while the recommended voltage and specific gravity measurements are made.

Substantiation: Pilot cell use is recommended but is not mandatory. It is more beneficial for lead-antimony than for lead-calcium batteries, both of which are variations of lead-acid batteries.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Accept

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-51 Log #3 EEM-AAA **Final Action: Hold**
(21.14.2.2)

Submitter: Stephen McCluer, APC by Schneider Electric
Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

If used, pilot cell voltage specific gravity, and electrolyte temperature should be measured and recorded monthly per the established maintenance program (9.9.4.2). Refer to the manufacturer's recommended range for float voltage applicable to a specific battery. ~~Common float voltage range for lead-calcium cells is 2.20 volts to 2.30 volts per cell. Lead-antimony cells float at about 2.17 volts to 2.21 volts per cell. Ni-Cad cells charge at approximately 1.42 volts per cell. Manufacturers' literature should be referred to for specific charge potentials.~~

Substantiation: Pilot cell readings are optional and are primarily for lead-antimony batteries. Not all routines are monthly. There are 3 specific measurements mentioned in the statement. Only one has a range. The range given could be misleading depending upon the specific gravity. It would be better to refer to the manufacturer's recommendation for the specific battery.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-51. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-52 Log #51 EEM-AAA **Final Action: Hold**
(21.14.2.2)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

If used, pilot cell voltage specific gravity, and electrolyte temperature should be measured and recorded monthly per the established maintenance program (9.9.4.2). Refer to the manufacturer's recommended range for float voltage applicable to a specific battery. ~~Common float voltage range for lead-calcium cells is 2.20 volts to 2.30 volts per cell. Lead-antimony cells float at about 2.17 volts to 2.21 volts per cell. Ni-Cad cells charge at approximately 1.42 volts per cell. Manufacturers' literature should be referred to for specific charge potentials.~~

Substantiation: Pilot cell readings are optional and are primarily for lead-antimony batteries. Not all routines are monthly. There are 3 specific measurements mentioned in the statement. Only one has a range. The range given could be misleading depending upon the specific gravity. It would be better to refer to the manufacturer's recommendation for the specific battery.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-52. This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals. This material was only relocated in Proposal 70B-46 and no technical changes were made.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-53 Log #4 EEM-AAA **Final Action: Reject**
(21.14.2.3)

Submitter: Stephen McCluer, APC by Schneider Electric
Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

A performance (load) test should be performed
Substantiation: A *performance* test is specific (see IEEE 450: performance test – A constant current or constant power capacity test made on a battery after it has been in service, to detect any change in the capacity). A performance test

tracks the capacity of the battery over time. A *load* test, on the other hand, could be anything. A load test might be an “as found” test which determines the batteries capability to deliver the load and can be an indicator of good or poor maintenance practices.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The substantiation does not support the concept in the recommended revision that “performance testing” and “load testing” are synonymous.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-54 Log #52 EEM-AAA **Final Action: Reject**
(21.14.2.3)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE
Stationary Battery Committee

Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

A performance (load) test should be performed
Substantiation: A *performance* test is specific (see IEEE 450: performance test – A constant current or constant power capacity test made on a battery after it has been in service, to detect any change in the capacity). A performance test tracks the capacity of the battery over time. A *load* test, on the other hand, could be anything. A load test might be an “as found” test which determines the batteries capability to deliver the load and can be an indicator of good or poor maintenance practices.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The substantiation does not support the concept in the recommended revision that “performance testing” and “load testing” are synonymous.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-55 Log #5 EEM-AAA **Final Action: Accept in Part**
(21.14.2.4)

Submitter: Stephen McCluer, APC by Schneider Electric
Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

Measure connection resistances of cell-to-cell and terminal connections intercell connectors and terminal connection resistances in accordance with manufacturer's instructions and with an established maintenance program and prior to a performance test.

Substantiation: Reword to clarify that intercell connector and terminal connection resistances are both included in one measurement. Manufacturers will provide the proper values. A maintenance program should have been established, reference 9.9.4.2. Because the previous paragraph discusses performance (load) testing, it should be made clear that these resistance tests are performed prior to a performance test.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members: Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Accept in Part

Accept the recommendation in part to read:

Measure connection resistances of cell-to-cell and terminal connections in accordance with manufacturer's instructions and with an established maintenance program.

Committee Statement: The committee rejects the part of the recommendation relative to the performance test based on the action taken on Comment 70B-53 and 70B-54.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-56 Log #53 EEM-AAA **Final Action: Accept in Part**
(21.14.2.4)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

Measure connection resistances of cell-to-cell and terminal connections intercell connectors and terminal connection resistances in accordance with manufacturer's instructions and with an established maintenance program and prior to a performance test.

Substantiation: Reword to clarify that intercell connector and terminal connection resistances are both included in one measurement. Manufacturers will provide the proper values. A maintenance program should have been established, reference 9.9.4.2. Because the previous paragraph discusses performance (load) testing, it should be made clear that these resistance tests are performed prior to a performance test.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Accept in Part

Committee Statement: See the committee action on Comment 70B-55.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-57 Log #6 EEM-AAA **Final Action: Reject**
(21.14.2.5)

Submitter: Stephen McCluer, APC by Schneider Electric

Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

Batteries should be examined under load with an infrared scanning device by technicians trained and skilled in the use of such devices. The abnormal temperature of a cell, a poor connection at a battery post and a deteriorated link, strap, or conductor are some of the problems that can be readily identified by thermographic surveys. Consult the manufacturer if anomalies are noted.

Substantiation: Correct typo (is/are). Thermographic scans can be a useful tool, but only if properly conducted and analyzed. Thermographic scans have not been incorporated as a requirement under general maintenance or testing guidelines in battery maintenance standards. Technicians / data analysts must understand what is normal and what is abnormal.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: The intent of all of the maintenance recommendations contained in this document are that they will be performed by qualified persons as defined in Section 3.3.58. It is unnecessary to provide specific emphasis on the qualifications of the persons performing these tasks in every maintenance item contained in this document.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-58 Log #54 EEM-AAA **Final Action: Reject**
(21.14.2.5)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

Batteries should be examined under load with an infrared scanning device by technicians trained and skilled in the use of such devices. The abnormal temperature of a cell, a poor connection at a battery post and a deteriorated link, strap, or conductor are some of the problems that can be readily identified by thermographic surveys. Consult the manufacturer if anomalies are noted.

Substantiation: Correct typo (is/are). Thermographic scans can be a useful tool, but only if properly conducted and analyzed. Thermographic scans have not been incorporated as a requirement under general maintenance or testing guidelines in battery maintenance standards. Technicians / data analysts must understand what is normal and what is abnormal.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Reject

Committee Statement: See the committee statement on Comment 70B-57.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-59 Log #2 EEM-AAA **Final Action: Hold**
(21.14.2.6)

Submitter: Stephen McCluer, APC by Schneider Electric

Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

~~Test readings~~ Measurements should be recorded for future reference along with log notations of the visual inspection and corrective action. ~~A copy~~ An example of a battery record is included as Figure F.21. The record should be modified to correspond to the user's maintenance program per 9.9.4.2.

Substantiation: The example given in F.21 is not applicable to all battery types. It is not applicable to capacity or performance testing. It applies to routine maintenance/ inspection and really should not be referenced in this testing section at all.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-59.

This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals. This material was only relocated in Proposal 70B-46 and no technical changes were made.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-60 Log #55 EEM-AAA **Final Action: Hold**
(21.14.2.6)

Submitter: Stephen McCluer, APC by Schneider Electric / Rep. IEEE Stationary Battery Committee

Comment on Proposal No: 70B-46

Recommendation: Revise text to read as follows:

~~Test readings~~ Measurements should be recorded for future reference along with log notations of the visual inspection and corrective action. ~~A copy~~ An example of a battery record is included as Figure F.21. The record should be modified to correspond to the user's maintenance program per 9.9.4.2.

Substantiation: The example given in F.21 is not applicable to all battery types. It is not applicable to capacity or performance testing. It applies to routine maintenance/ inspection and really should not be referenced in this testing section at all.

This comments is the consensus of the IEEE Stationary Battery Code Working Group which includes the following members:Phylis Archer/ C&D Technologies; Curtis Ashton/ Qwest Communications; Gary Balash/ Deka Batteries ; Thomas Carpenter/ Arnold AFB ; Allen Byrne / International Batteries ; Daniel Levin / NYPA; Stephen McCluer/APC by Schneider Electric; Russell Miller/ Douglas Battery; John Polenz/ Emerson Electric; Chris Searles/ BAE Batteries

Committee Meeting Action: Hold

Committee Statement: The committee action is to hold Comment 70B-60.

This action is based on Section 4.4.6.2.2(a) of the NFPA Regulations Governing Committee Projects because the recommendation introduces a concept that has not had public review by being included in a related proposal as published in the Report on Proposals. This material was only relocated in Proposal 70B-46 and no technical changes were made.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-61 Log #19 EEM-AAA **Final Action: Reject**
(21.25)

Submitter: Melvin K. Sanders, Things Electrical Co., Inc. (TECo., Inc.)

Comment on Proposal No: 70B-52

Recommendation: Continue to accept the Committee Action to provide Section 21.25 Power Factor Correction Capacitors, but retain information from the original recommended text proposed for all capacitors in 21.25. 1.2 adapt as follows to additionally address low voltage surge protection capacitors.

“21.25.2 Low Voltage Surge Capacitors.

21.25.2.1 Field Testing in General.

21.25.2.1.1 Where field testing is required, it is recommended that a qualified field service team be employed and that instructions be followed as recommended by appropriate standard and manufacture’s instructions. If evaluation of the surge protection indicates results that differ significantly from the recommended values, the surge protection capacitor should be removed.

21.25.2.2 Field Tests Specific.

21.25.2.2.1 Insulation Resistance testing.

21.25.2.2.1.1 Measure insulation resistance on each capacitor, from the phase terminal to ground. Apply voltage in accordance with manufacturer’s published data.

21.25.2.2.1.2 Insulation resistance values should be in accordance with manufacturer’s published data. Investigate resistance values differing from manufacturer’s published data.

21.25.2.3 Capacitance Testing.

21.25.2.3.1 Measure capacitance of all terminal combinations.

21.25.2.3.2 Capacitive values should be in accordance with manufacturer’s published data. Investigate capacitance values differing from manufacturer’s published data.”

Substantiation: The original submittal treated all capacitor’s the same, and this along with the acceptance of the TC Action will provide useful information for both surge protection capacitor’s and power factor correction capacitors.

Committee Meeting Action: Reject

Committee Statement: The committee notes that this comment is on Proposal 70B-55. The committee reaffirms its action on Proposal 70B-55.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.

70B-62 Log #62 EEM-AAA **Final Action: Reject**
(27.11)

Submitter: Michael A. Anthony, University of Michigan Plant Operations

Comment on Proposal No: 70B-67

Recommendation: Add a line on the generator testing form to accommodate Environmental Protection Agency generator emissions testing requirements.

Substantiation: No NFPA documents deal with the significant environmental issues that must be addressed in testing and running standby generators. Even if the electrician does not have to do that work he or she should at least be reminded of the EPA certification requirements every 1 and 3 years and should be informed enough to pass on the information to facility management.

Note: Supporting material is available for review at NFPA Headquarters.

Committee Meeting Action: Reject

Committee Statement: In accordance with Section 4.4.5(c) of the NFPA Regulations Governing Committee Projects the comment is rejected because the recommendation does not include the proposed text to be added.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Ballot Not Returned: 1 Nienaber, G.