

American Electricians Handbook 15th Edition Book

FULLY UPDATED FOR THE LATEST ELECTRICAL CODES AND STANDARDS For a century, the American Electricians' Handbook has served as the definitive industry reference for information on designing, installing, operating, and maintaining electrical systems and equipment. The Sixteenth Edition is revised to comply with the 2011 National Electrical Code and the 2012 National Electrical Safety Code, and covers current energy-efficient technologies, such as photovoltaics and induction lighting. Detailed photos, diagrams, charts, tables, and calculations are included throughout. This practical, on-the-job resource is a must-have tool for every professional electrician. Covers: Fundamentals Properties and splicing of conductors Circuits and circuit calculations General electrical equipment and batteries Transformers Solid-state devices and circuits Generators and motors Outside distribution Interior wiring Electric lighting Optical fiber Wiring and design tables

Mastering the theory and application of electrical concepts is necessary for a successful career in the electrical installation or industrial maintenance fields, and this new fifth edition of DELMAR'S STANDARD TEXTBOOK OF ELECTRICITY delivers! Designed to train aspiring electricians, this text blends concepts relating to electrical theory and principles with practical 'how to' information that prepares students for situations commonly encountered on the job. Topics span all the major aspects of the electrical field including atomic structure and basic electricity, direct and alternating current, basic circuit theory, three-phase circuits, single phase, transformers, generators, and motors. This revision retains all the hallmarks of our market-leading prior editions and includes enhancements such as updates to the 2011 NEC, a CourseMate homework lab option, and a new chapter on industry orientation as well as tips on energy efficiency throughout the text. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

The Electrician's all-in-one everything guide. The 13th edition of this industry classic packs: lightning-fast troubleshooting techniques; proven tips for passing inspections-every time; simplified electrical power calculations; guidelines for selecting tools & materials for any job; time- & money-saving wiring tips; current standards of the NEC, ANS, NESC & NEMA. Everything you need to select, install, operate & maintain today's electrical systems is packed into the 13th edition of the American Electrician's Handbook. Experts Terrell Croft & Wilford Summers deliver complete, practical, up-to-date information on the properties & splicing of conductors... circuits & circuit calculations... general electrical equipment & batteries... transformers... electronic & solid-state circuits... generators & motors... interior wiring... electric lighting... wiring tables... & much, much more.

Up-to-date coverage of every facet of electric power in a single volume This fully revised, industry-standard resource offers practical details on every aspect of electric power engineering. The book contains in-depth discussions from more than 100 internationally recognized experts. Generation, transmission, distribution, operation, system protection, and switchgear are thoroughly explained. Standard Handbook for Electrical Engineers, Seventeenth Edition, features brand-new sections on measurement and instrumentation, interconnected power grids, smart grids and microgrids, wind power, solar and photovoltaic power generation, electric machines and transformers, power system analysis, operations, stability and protection, and the electricity market. Coverage includes: •Units, symbols, constants, definitions, and conversion factors •Measurement and instrumentation •Properties of materials •Interconnected power grids •AC and DC power transmission •Power distribution •Smart grids and microgrids •Wind power generation •Solar power generation and energy storage •Substations and switch gear •Power transformers, generators, motors, and drives •Power electronics •Power system analysis, operations, stability, and protection •Electricity markets •Power quality and reliability •Lightning and overvoltage protection •Computer applications in the electric power industry •Standards in electrotechnology, telecommunications, and IT

The #1 Guide to the 2008 NEC® to Ensure that Electrical Work Passes Inspection on the First Try! Completely revised and updated to reflect all 2008 Code changes, McGraw-Hill's National Electrical Code® 2008 Handbook, 26th Edition provides the essential put-the-code-into-practice guidance that users require in the field and in the office. An industry bestseller for over 85 years, this classic handbook helps decipher and interpret new Code changes and difficult and controversial rules. With the new addition of Frederic P. Hartwell to the author team, this time-tested reference has been rigorously revised and rewritten to cover all the information needed to meet 2008 Code requirements. Covering every topic in the 2008 Code, the coverage ranges from grounded conductors, branch circuits, feeders, surge arresters, wiring methods, cables, conduits, and switches...to hazardous locations, emergency systems, communications circuits, and product safety standards. McGraw-Hill's National Electrical Code® 2008 Handbook, 26th Edition features a bind-in card with a code that enables users to download the searchable e-book and the following new coverage: New rules, terminology, and definitions that modify key grounding concepts New rules for GFCIs and AFCIs Fire pumps Repair garage area classifications Solar photovoltaic systems, including utility interactive inverters Extensive coverage of how to size conductors under all loading conditions Critical operations power systems (COPS)-the new Article 708 on hardened facilities Inside this Practice-Oriented Guide to the 2008 NEC® • Requirements for Electrical Installations • Branch Circuits • Feeders • Services • Surge Arresters • Wiring Methods • Cables • Conduits • Tubing • Busways • Wireways • Raceways • Fixture Wires • Switches • Appliances • Generators • Capacitors • Storage Batteries • Hazardous Locations • Temporary Wiring • Emergency Systems • Communications Circuits • Tables • Examples • And Much More! The 2020 National Electrical Code covers the most current standards and topics such as: renewable energy and energy storage.

THE MOST COMPLETE AND CURRENT GUIDE TO ELECTRICAL ENGINEERING For more than a century, the Standard Handbook for Electrical Engineers has served as the definitive source for all the pertinent electrical engineering

data essential to both engineering students and practicing engineers. It offers comprehensive information on the generation, transmission, distribution, control, operation, and application of electric power. Completely revised throughout to address the latest codes and standards, the 16th Edition of this renowned reference offers new coverage of green technologies such as smart grids, smart meters, renewable energy, and cogeneration plants. Modern computer applications and methods for securing computer network infrastructures that control power grids are also discussed. Featuring hundreds of detailed illustrations and contributions from more than 75 global experts, this state-of-the-art volume is an essential tool for every electrical engineer. Standard Handbook for Electrical Engineers, 16th Edition, covers: Units, symbols, constants, definitions, and conversion factors * Electric and magnetic circuits * Measurements and instruments * Properties of materials * Generation * Prime movers * Alternating-current generators * Direct-current generators * Hydroelectric power generation * Power system components * Alternate sources of power * Electric power system economics * Project economics * Transmission systems * High-voltage direct-current power transmission * Power system operations * Substations * Power distribution * Wiring design for commercial and industrial buildings * Motors and drives * Industrial and commercial applications of electric power * Power electronics * Power quality and reliability * Grounding systems * Computer applications in the electric power industry * Illumination * Lightning and overvoltage protection * Standards in electrotechnology, telecommunications, and information technology

A Completely Updated Edition of the "Electricians' Bible" The most popular electricians' handbook for the past 95 years has been completely updated to provide the latest NEC and NESC rules and standards, and new references to solar power, photovoltaics, induction lighting, and more. Providing all the information you'll need to design, maintain, and operate systems and equipment, the Fifteenth Edition of the American Electricians' Handbook is the key to tackling even the most complex jobs with complete confidence. This one-stop resource focuses on systems and equipment rather than codes and calculations, making it the most practical, hands-on guide available. No matter what kind of electrical project you plan to take on, the American Electricians' Handbook is the only guide you'll need. American Electrician's Handbook covers: Solar power and photovoltaics Variable- and adjustable-speed drives Variable-speed-drive programming Continuous load calculations Induction lighting New NEC and NESC rules NEMA motor and generator standards Voltage drops in circuits with non-unity power factors Inside: • Fundamentals • Properties and Splicing of Conductors • Circuits and Circuit Calculations • General Electrical Equipment and Batteries • Transformers • Solid-State Devices and Circuits • Generators and Motors • Outside Distribution • Interior Wiring • Electric Lighting • Optical Fiber • Wiring and Design Tables

The Most Complete Guide to the 2011 NEC Thoroughly revised and expanded with hundreds of pages of new material to reflect changes in the 2011 NEC, McGraw-Hill's National Electrical Code 2011 Handbook, 27th Edition provides authoritative guidance and analysis to help you accurately interpret 2011 NEC rules. Co-author and working electrician, Frederic P. Hartwell, who has participated in the NEC process for almost thirty years, describes problems and difficulties in NEC provisions from an unbiased and practical perspective. It does not duplicate NEC text and tables within its covers. Designed as an essential companion to the 2011 NEC, it contains over one-third more explanatory material and more than 1000 diagrams and photos within its convenient 6 x 9 inch format. Details on the background and rationale for specific code rules facilitate an in-depth understanding of the meaning and application of those rules. This must-have on-the-job reference helps your work pass inspection the first time.

The most comprehensive, authoritative and widely cited reference on photovoltaic solar energy Fully revised and updated, the Handbook of Photovoltaic Science and Engineering, Second Edition incorporates the substantial technological advances and research developments in photovoltaics since its previous release. All topics relating to the photovoltaic (PV) industry are discussed with contributions by distinguished international experts in the field. Significant new coverage includes: three completely new chapters and six chapters with new authors device structures, processing, and manufacturing options for the three major thin film PV technologies high performance approaches for multijunction, concentrator, and space applications new types of organic polymer and dye-sensitized solar cells economic analysis of various policy options to stimulate PV growth including effect of public and private investment Detailed treatment covers: scientific basis of the photovoltaic effect and solar cell operation the production of solar silicon and of silicon-based solar cells and modules how choice of semiconductor materials and their production influence costs and performance making measurements on solar cells and modules and how to relate results under standardised test conditions to real outdoor performance photovoltaic system installation and operation of components such as inverters and batteries. architectural applications of building-integrated PV Each chapter is structured to be partially accessible to beginners while providing detailed information of the physics and technology for experts. Encompassing a review of past work and the fundamentals in solar electric science, this is a leading reference and invaluable resource for all practitioners, consultants, researchers and students in the PV industry.

As new technologies are created and advances are made with the ongoing research efforts, power system harmonics has become a subject of great interest. The author presents these nuances with real-life case studies, comprehensive models of power system components for harmonics, and EMTP simulations. Comprehensive coverage of power system harmonics Presents new harmonic mitigation technologies In-depth analysis of the effects of harmonics Foreword written by Dr. Jean Mahseredijan, world renowned authority on simulations of electromagnetic transients and harmonics

"Covers all of the most common do-it-yourself home wiring skills and projects, including new circuits, installations and repair. New projects in this edition include upgrading a service panel to 209 amps and wiring an outbuilding"--Provided by publisher.

A question-and-answer study guide for students and apprentices preparing to take the journeyman's or master's electrician's exam based on the 2005 National Electrical Code.

Filled with over 1500 illustrations; this classic text explains the basic principles; equipment; standards; and safety regulations required for optimal on-the-job performance. --

The Definitive Guide to the 2014 NEC Completely revised and expanded to reflect changes in the 2014 NEC, McGraw-Hill's National Electrical Code® 2014 Handbook, 28th Edition presents the trusted advice and analysis you need to accurately interpret 2014 NEC rules. In-depth coverage of the background and rationale for specific Code rules enhances your understanding of the meaning and application of those rules. This practical resource also points out important matters of discussion with inspectors. Designed as a must-have companion to the 2014 NEC book published by the National Fire Protection Association, this comprehensive volume features more than 1,000 detailed diagrams and photos. The authoritative information and insight contained in this on-the-job reference will help your work pass inspection the first time. This book doesn't duplicate the text of the NEC. Instead, it is entirely comprised of explanatory text, specifically addressing every single code article, providing the most analytical content available. Because this book is published completely independently from NFPA, it is free to--and frequently does--offer detailed analysis of technically questionable

and editorially convoluted provisions in the NEC, along with strategies for discussing those issues in advance with owners and inspectors before financial commitments are made. Covers all significant changes in the 2014 NEC, including: Low Voltage Direct Current Distribution Systems (new Article 393) Modular Data Centers (new Article 646) Fire Resistive Cable Systems (new Article 728) Energy Management Systems (new Article 750) Global changes to hazard warning labels and centralization of rules for lockout mechanisms, along with extensive increases of permitted utilization voltage from 600 to 1000 Coverage throughout the NEC® of DC systems due to expanding usage Critical expansion of both requirements for and acceptable strategies to provide AFCI protection

"Based on the 2014 National Electrical Code."

This new edition of the definitive arc flash reference guide, fully updated to align with the IEEE's updated hazard calculations An arc flash, an electrical breakdown of the resistance of air resulting in an electric arc, can cause substantial damage, fire, injury, or loss of life. Professionals involved in the design, operation, or maintenance of electric power systems require thorough and up-to-date knowledge of arc flash safety and prevention methods. Arc Flash Hazard Analysis and Mitigation is the most comprehensive reference guide available on all aspects of arc flash hazard calculations, protective current technologies, and worker safety in electrical environments. Detailed chapters cover protective relaying, unit protection systems, arc-resistant equipment, arc flash analyses in DC systems, and many more critical topics. Now in its second edition, this industry-standard resource contains fully revised material throughout, including a new chapter on calculation procedures conforming to the latest IEEE Guide 1584. Updated methodology and equations are complemented by new practical examples and case studies. Expanded topics include risk assessment, electrode configuration, the impact of system grounding, electrical safety in workplaces, and short-circuit currents. Written by a leading authority with more than three decades' experience conducting power system analyses, this invaluable guide: Provides the latest methodologies for flash arc hazard analysis as well practical mitigation techniques, fully aligned with the updated IEEE Guide for Performing Arc-Flash Hazard Calculations Explores an inclusive range of current technologies and strategies for arc flash mitigation Covers calculations of short-circuits, protective relaying, and varied electrical system configurations in industrial power systems Addresses differential relays, arc flash sensing relays, protective relaying coordination, current transformer operation and saturation, and more Includes review questions and references at the end of each chapter Part of the market-leading IEEE Series on Power Engineering, the second edition of Arc Flash Hazard Analysis and Mitigation remains essential reading for all electrical engineers and consulting engineers.

The most trusted guide to the National Electric Code—fully updated for 2020 rules and regulations Completely revised to align with the 2020 NEC, McGraw-Hill's National Electrical Code (NEC) 2020 Handbook, 30th Edition, offers up-to-date explanations, advice, and analysis for every provision. In-depth coverage of the background and rationale for specific rules enhances understanding of both meaning and application. This practical resource features over 1,000 figures, photos, and examples. Designed to be used as a companion guide to the 2020 NEC itself, this on-the-job reference is arranged in code order, so the explanation for any topic lines up exactly with the applicable section in the code. You will gain access to straightforward, ready-to-apply code clarification, enabling you to work efficiently and safely and achieve full compliance. Completely updated to cover every code article in the 2020 NEC Provides concise explanations of complex rules Written by a senior member of the NEC Code Committee

The Construction Chart Book presents the most complete data available on all facets of the U.S. construction industry: economic, demographic, employment/income, education/training, and safety and health issues. The book presents this information in a series of 50 topics, each with a description of the subject matter and corresponding charts and graphs. The contents of The Construction Chart Book are relevant to owners, contractors, unions, workers, and other organizations affiliated with the construction industry, such as health providers and workers compensation insurance companies, as well as researchers, economists, trainers, safety and health professionals, and industry observers. Waste Electrical and Electronic Equipment (WEEE) Handbook, Second Edition, is a one-stop reference on current electronic waste legislation initiatives, their impact, and the latest technological considerations for reducing electronic waste (e-waste) and increasing the efficiency of materials recovery. It also provides a wide-range of global and corporate examples and perspectives on the challenges that face specific regions and companies, along with the solutions they are implementing in managing e-waste, offering further insights on how discarded products can be treated. Sections introduce the reader to legislation and initiatives to manage WEEE and discuss technologies for the refurbishment, treatment and recycling of waste electronics. Further sections focus on electronic products that present particular challenges for recyclers, explore sustainable design of electronics and supply chains, discuss national and regional WEEE management schemes, and more. Addresses the latest challenges and opportunities for electronic waste (e-waste) management, including e-waste collection models, circular economy implications, rare earth metal recovery, and much more Draws lessons for waste electrical and electronic equipment (WEEE) policy and practice from around the world Discusses legislation and initiatives to manage WEEE, including global e-waste initiatives, EU legislation relating to electronic waste, and eco-efficiency evaluation of WEEE take-back systems

The definitive guide to the National Electric Code—thoroughly revised for 2020 rules and regulations Updated to fully align with the 2020 NEC, this trusted on-the-job reference contains plain-language explanations, advice, and analysis for every provision. You will get discussions of the rationale behind specific rules that enhances your understanding of both meaning and application. This handbook features thousands of detailed diagrams and photos as well as in-depth discussions regarding controversial wording and actual errors, together with possible approaches to discussions with inspectors regarding how to cope with these issues. This book is not published by NFPA, and is therefore free to confront such topics head on. Written by a senior member of the NEC Code Committee, McGraw Hill's National Electrical Code

(NEC) 2020 Handbook, 30th Edition is logically arranged and serves as a companion to the Code itself—the explanation for any topic lines up exactly with the applicable section in the Code. The book does not reproduce the Code, and therefore every column inch is devoted to explaining its provisions. You will get straightforward clarification of obtuse rules and vague language, enabling you to work efficiently and safely—and to achieve full compliance. Covers all significant changes to the 2020 NEC, including: Reconditioned equipment Massive expansion of GFCI requirements New receptacle coverage rules for kitchen islands and peninsulas Total revision of non-dwelling lighting load calculations Elimination of common enclosures for service disconnects Exterior emergency disconnects Rules for stair towers New EGC fill calculations for boxes Temperature limits for LFMC and LFNC Latest developments for PV systems

The Routledge Handbook on American Prisons is an authoritative volume that provides an overview of the state of U.S. prisons and synthesizes the research on the many facets of the prison system. The United States is exceptional in its use of incarceration as punishment. It not only has the largest prison population in the world, but also the highest per-capita incarceration rate. Research and debate about mass incarceration continues to grow, with mounting bipartisan agreement on the need for criminal justice reform. Divided into four sections (Prisons: Security, Operations and Administration; Types of Offenders and Populations; Living and Dying in Prison; and Release, Reentry, and Reform), the volume explores the key issues fundamental to understanding the U.S. prison system, including the characteristics of facilities; inmate risk assessment and classification, prison administration and employment, for-profit prisons, special populations, overcrowding, prison health care, prison violence, the special circumstances of death row prisoners, collateral consequences of incarceration, prison programming, and parole. The final section examines reform efforts and ideas, and offers suggestions for future research and attention. With contributions from leading correctional scholars, this book is a valuable resource for scholars with an interest in U.S. prisons and the issues surrounding them. It is structured to serve scholars and graduate students studying corrections, penology, institutional corrections, and other related topics. This book provides an understanding of the nature of short-circuit currents, current interruption theories, circuit breaker types, calculations according to ANSI/IEEE and IEC standards, theoretical and practical basis of short-circuit current sources, and the rating structure of switching devices. The book aims to explain the nature of short-circuit currents, the symmetrical components for unsymmetrical faults, and matrix methods of solutions, which are invariably used on digital computers. It includes innovations, worked examples, case studies, and solved problems.

American Electrician's Handbook McGraw-Hill Professional Publishing McGraw-Hill's National Electrical Code 2014 Handbook, 28th Edition McGraw Hill Professional

The new edition of the best-known reference for electricians—fully updated for the latest codes and standards For over a century, this practical handbook has served as the definitive industry reference for information on designing, installing, operating, and maintaining electrical systems and equipment. This seventeenth edition has been thoroughly revised to comply with the most recent (2020) National Electrical Code and National Electrical Safety Code. American Electricians' Handbook, 17th Edition, covers current energy-efficient technologies, such as Power over Ethernet (PoE), photovoltaics and induction lighting, and contains a new chapter that clearly explains new industry safety methods, along with detailed coverage of how those procedures correlate with OSHA requirements. Detailed photos, diagrams, charts, tables, and calculations are included. This is a practical, on-the-job resource for every professional electrician. Covers:

Fundamentals Properties and splicing conductors Circuits and circuit calculations General electrical and batteries Transformers Solid-state devices and circuits Generators and Motors Outside Distribution Interiors wiring Electric lighting Optical fiber Wiring and design tables Electrical safety
CD-ROM contains: Samples of all AIA contract documents.

Ugly's Electrical References, 2020 Edition is the gold standard on-the-job reference tool of choice for electrical industry professionals. Offering the most pertinent, up-to-date information used by electricians, including: updated NEC code and table change information, mathematical formulas, NEMA wiring configurations, conduit bending guide, ampacity and conduit fill information, transformer and control circuit wiring diagrams, and conversion tables. New Features of this Edition: • Updated to reflect changes to the 2020 National Electrical Code (NEC) • Expanded coverage of the following topics: o Junction Box size calculations o Selecting, testing, and using multimeters to measure voltage, resistance, and current o Selecting, testing, and using a clamp-on ammeter to measure current o Selecting, testing, and using a non-contact voltage tester

This inspiring book addresses a topic that is far too often ignored or disregarded by sci-tech librarians: Exactly how do scientists and engineers really discover, select, and use the countless information and communications resources available to them when conducting research? The answer to this question should be a major influence on the way information specialists develop information systems in their libraries. Unfortunately, many librarians are not as familiar with the work, information needs, and communicating behavior of the research worker. Information Seeking and Communications Behavior of Scientists and Engineers looks at this question from several perspectives to give an overall view of how to best serve the needs of the scientific community. This book is an encouragement and a challenge to sci-tech librarians to make an ever greater effort to understand the work of their users, the differing information channels and sources they employ, and thus tailor the library's systems and services to best support their information-seeking behavior.

The essential guide to beginning your career in architecture The Architecture Student's Handbook of Professional Practice opens the door to the vast body of knowledge required to effectively manage architectural projects and practice. A professional architect is responsible for much more than design; this book is specifically designed to help prepare you for the business and administrative challenges of working in the real-world—whether you are a student or are just starting out in practice. It provides clear insight into the legal, financial, marketing, management, and administrative tasks and issues that are integral to keeping a firm running. This new edition has been restructured to be a companion textbook for students undertaking architectural practice classes, while also fulfilling the specific knowledge needs of interns and emerging

professionals. It supplements information from the professional handbook with new content aimed at those setting out in the architectural profession and starting to navigate their careers. New topics covered in this new edition include: path to licensure, firm identity, professional development, strategic planning, and integrated project delivery. Whether you want to work at a top firm, strike out on your own, or start the next up-and-coming team, the business of architecture is a critical factor in your success. This book brings the fundamentals together to give you a one-stop resource for learning the reality of architectural practice. Learn the architect's legal and ethical responsibilities Understand the processes of starting and running your own firm Develop, manage, and deliver projects on time and on budget Become familiar with standard industry agreements and contracts Few architects were drawn to the profession by dreams of writing agreements and negotiating contracts, but those who excel at these everyday essential tasks impact their practice in innumerable ways. The Architecture Student's Handbook of Professional Practice provides access to the "nuts and bolts" that keep a firm alive, stable, and financially sound.

Prepare to pass the computer-based FE Electrical and Computer exam with PPI's FE Electrical and Computer Review Manual.

The physical linkages responsible for carrying a company's data continue to be the most neglected components of the typical network—to the extent that nearly 70% of all network-related problems result from poor cabling. In this third edition of a widely acclaimed resource, three networking experts share their extensive experience, teaching you the cabling skills you need to build a reliable, efficient, and cost-effective network cabling infrastructure. As you master these techniques, you'll learn to avoid common pitfalls and troubleshoot problems as quickly as they arise. Coverage includes: Choosing the right cables and components for your network architecture and topology Avoiding unnecessary and unexpected costs Understanding the current limitations of data communications and network cabling Understanding how laws and building codes constrain cabling Understanding the function and importance of universal cabling standards Determining when you have a cabling-related network problem Assembling a complete cabling toolkit Integrating voice and data on the same cable system Setting up an infrastructure in which desktops, printers, copiers, and other nodes share cabling Understanding issues of bandwidth, impedance, resistance, attenuation, crosstalk, capacitance, propagation, delay, and delay skew Working effectively with USB and Firewire Knowing when to discard legacy cabling and begin anew Documenting your cabling Creating an RFP and selecting a vendor

A vital resource for pilots, instructors, and students, from the most trusted source of aeronautic information.

The Definitive Guide to the 2017 National Electrical Code Completely revised to fully align with the 2017 NEC, McGraw-Hill's National Electrical Code (NEC) 2017 Handbook, 29th Edition, presents the trusted advice and analysis you need to accurately interpret the latest set of rules. In-depth coverage of the background and rationale for specific rules enhances understanding of the meaning and application of those rules. This practical resource also illustrates key points through discussions with owners and inspectors. Designed to be used as a companion guide to the 2017 NEC itself, this on-the-job reference is arranged in code order, so the explanation for any topic lines up exactly with the applicable section in the code. You will gain access to straightforward, ready-to-apply code clarification, enabling you to work efficiently and safely and achieve full compliance. • Completely updated to cover all changes in the 2017 NEC • Provides concise explanations of controversial rules • Written by a senior member of the NEC steering committee

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