About the Building Seismic Safety Council

The Building Seismic Safety Council (BSSC), which became part of the National Institute of Building Sciences in 1979, deals with the complex technical, regulatory, social, and economic issues involved in developing and promulgating building earthquake risk mitigation regulatory provisions that are national in scope. By bringing together in the BSSC all of the needed expertise and all relevant public and private interests, it was believed that issues related to the seismic safety of the built environment could be resolved and jurisdictional problems overcome through authoritative guidance and assistance backed by a broad consensus. The BSSC is an independent, voluntary organizational membership body representing a wide variety of building community interests. Its fundamental purpose is to enhance public safety by providing a national forum that fosters improved seismic planning, design, construction and regulation in the building community. To fulfill its purpose, the BSSC: (1) recommends, encourages and promotes the improvement and update of seismic safety provisions for adoption by the national standards and model building codes; (2) help to assesses progress in the implementation of such provisions by federal, state, and local regulatory and construction agencies; (3) identifies issues and opportunities for improving seismic safety regulations and practices and encourages public and private organizations to effect such improvements; (4) promotes the development of training and educational courses and materials for use by design professionals, builders, building regulatory officials, elected officials, industry representatives, other members of the building community, and the general public; (5) advises government bodies on their programs of research, development, and implementation; and (6) periodically reviews and evaluates research findings, practices, and experience and makes recommendations for incorporation into seismic design practices.

In 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to plan effective ways to protect the lives of building occupants during an earthquake and mitigate the impact of such disasters on the national economy. The law established the National Earthquake Hazards Reduction Program (NEHRP) and designated four federal agencies to tackle seismic issues: the Federal Emergency Management Agency (FEMA), National Institute of Standards and Technology (NIST), National Science Foundation (NSF) and the United States Geological Survey (USGS). The Building Seismic Safety Council (BSSC) under contract with the Federal Emergency Management Agency developed and maintains the NEHRP Recommended
Seismic Provisions for New Buildings and Other Structures. This code development resource document played a key role in the national code and standard development. It was used to form the seismic provisions for the first edition of the International Building Code (IBC); it was also the primary resource for the professional design standard ASCE/SEI 7-05 Minimum Design Loads for Buildings and Other Structures. The 2009 edition of the NEHRP Provisions FEMA P-750 was developed as a knowledge-based resource document focusing on translation of new knowledge and technologies for implementation. The 2014 edition of the NEHRP Provisions is currently under development by the Provisions Update Committee (PUC) formed by the BSSC.

The BSSC also develops educational, training materials and explanatory information to support the customers of the NEHRP Provisions. The Provisions provide in-depth and complete commentary on the seismic design requirements in the ASCE 7. The NEHRP Recommended Seismic Provisions: Design Examples, FEMA P-751, based on the Provisions, are intended for those who are experienced structural designers, but are relatively new to the field of seismic design. The design examples explain the principles behind the Provisions and include types of structures, materials, and specific seismic load resisting elements that illustrate to the reader how to apply the new requirements and to handle critical issues when conducting seismic design of the specific structural system. Practitioners and academics also will find useful training and educational slides to be published in FEMA 752. Seminars and workshops will be held based on the FEMA 752 materials. Additionally, the BSSC develops the Simplified Seismic Design Procedures to help those engineers who may face the challenge of providing seismic designs for certain structures in a short time and under a tight budget. The procedures are intended for targeted structural systems or regions to achieve seismic performance equal to or above code requirements.

Understanding the Provisions as a basis for seismic-related codes and standards is important to many others outside the technical community. To support this transfer of knowledge, the BSSC has developed Earthquake-Resistant Design Concepts, FEMA P-749 for use by builders, elected officials, industry representatives, decision-makers in the insurance and finance communities, individual business owners, other members of the building community and the public. The document provides a nontechnical explanation of the concepts of the earthquake-resistant design and requirements of the Provisions.

BSSC’s mission to improve the regulation of seismic resistant planning, design and construction also is accomplished through the Codes Resource Seismic Committee (CRSC). This group of volunteers develops, submits, monitors, and supports code changes, particularly in the International Building Code (IBC), for both new and existing buildings based on the most recent edition of the Provisions.

Periodically, the BSSC advises government bodies on their programs of seismic research, development, and implementation. For example, for the National Institute of Standards and Technology (NIST) the BSSC in 2012 and 2013 prepared the Development of NIST Measurement Science R&D Roadmap: Earthquake Risk Reduction in Buildings, NIST GCR 13-917-23 to assist NIST in planning future research efforts related to seismic safety for new and existing buildings over the next eight years. Recommended research topics are intended to fulfill the broad objectives of the NIST program - Earthquake Risk Reduction in Buildings and Infrastructure. Research that is implemented will support the development of seismic-related codes and standards.

The BSSC also supported NIST on behalf of the Interagency Committee on Seismic Safety in Construction (ICSSC) in development of the Standards of Seismic Safety for Existing Federally Owned and Leased Buildings, ICSSC Recommended Practice 8 (RP 8), NIST GCR 11-917-12. As part a continuing effort to achieve seismic safety in existing Federal buildings, this Standards document is intended provide Federal agencies with minimum and extended standards for the evaluation and mitigation of seismic risks posed by
FEMA P-751, NEHRP Recommended Provisions: Design Examples

their building inventories. The NEHRP Provisions, among other code documents, provides the basis for defining these performance objectives.

The success of the BSSC is due to the efforts of its voting organizational members and volunteer experts, which include: engineers, architects, academics, researchers, code officials, manufacturers and suppliers. The Provisions are developed by a technical committee of seismic experts that identify and apply the most advanced seismic technology available. The committee is supported by expert issue teams that address specific aspects of seismic design methodology and construction. These committee and team members ensure that lessons learned from the building performance during the earthquakes, as well as new research to improve earthquake resistance, are reflected in state-of-the-art seismic requirements. The organizational members ensure that in this process accounts for the interests of the building community.

Believing that the achievement of its purpose is a concern shared by all in the public and private sectors, the BSSC’s activities are structured to provide all interested entities with the opportunity to participate. The BSSC also believes that the regional and local differences in the nature and magnitude of potentially hazardous earthquake events require a flexible approach to seismic safety that allows for consideration of the relative risk, resources, and capabilities of each community. BSSC support States and local jurisdictions to adopt and enforce the full strength of national model building codes. The BSSC is committed to lasting technical improvement of seismic design provisions, assessment of advances in engineering knowledge and design experience and evaluation of earthquake impacts.
2012-2013 BSSC Board of Direction

Officers
Jim. W. Sealy, FAIA, Chair
Dallas, TX

James R. Cagley, P.E, S.E., Vice Chair
Chairman of the Board Cagley & Associates
Rockville, MD
Representing: Applied Technology Council

Melvyn Green, Secretary
Melvyn Green & Associates
Torrance, CA
Representing: Earthquake Engineering Research Institute

Members
Remington B. Brown
Insurance Institute for Building and Home Safety
Tampa, FL
Representing: Insurance Institute for Building and Home Safety

Charles J. Carter, PhD., P.E., S.E.
Vice President of Engineering and Research
American Institute of Steel Construction
Chicago, IL
Representing: American Institute of Steel Construction

Bradford K. Douglas, P.E.
Vice President, Engineering
American Wood Council
Leesburg, VA
Representing: American Wood Council

Jennifer Goupil, P.E.
Director, Structural Engineering Institute
American Society of Civil Engineers
Reston, VA
Representing: American Society of Civil Engineers

Perry Haviland
Oakland, CA
Representing: American Institute of Architects

John R. Hayes, Jr. ("Jack"), PhD., P.E.
NEHRP Director
National Institute of Standards and Technology (NIST)
Gaithersburg, MD
Representing: National Institute of Standards and Technology
BSSC Member Organizations

Voting Members

- American Concrete Institute
- American Council of Engineering Companies
- American Institute of Architects
- American Institute of Steel Construction
- American Iron and Steel Institute
- APA - The Engineered Wood Association
- American Society of Civil Engineers
- American Welding Society
- American Wood Council (formerly the American Forest & Paper Association)
- Applied Technology Council
- Association of Engineering and Environmental Geologists
- Brick Industry Association
- Building Owners and Managers Association International
- California, Division of the State Architect, California
- California Seismic Safety Commission
- Concrete Masonry Association of California and Nevada
- Concrete Reinforcing Steel Institute
- Earthquake Engineering Research Institute
- General Services Administration-Seismic Program
- Institute for Business and Home Safety
- International Code Council
- International Masonry Institute
- Masonry Institute of America
- Metal Building Manufacturers Association
- National Association of Home Builders
- National Concrete Masonry Association
- National Council of Structural Engineers Associations
- National Institute of Building Sciences
- National Institute of Standards and Technology
- National Ready Mixed Concrete Association
- Portland Cement Association
- Precast/Prestressed Concrete Institute
- Rack Manufacturers Institute
- Steel Deck Institute
- Structural Engineers Association of California
- Structural Engineers Association of Central California
- Structural Engineers Association of Colorado
- Structural Engineers Association of Illinois
- Structural Engineers Association of Kansas & Missouri
- Structural Engineers Association of Kentucky
- Structural Engineers Association of Northern California
- Structural Engineers Association of Oregon
- Structural Engineers Association of San Diego
- Structural Engineers Association of Southern California
- Structural Engineers Association of Texas
- Structural Engineers Association of Utah
- Structural Engineers Association of Washington
- The Masonry Society
- Western States Clay Products Association
- Wisconsin Department of Administration
Appendix A: Building Seismic Safety Council

BSSC Publications

For a complete list of all BSSC publications and to download copies free of charge, visit the BSSC website at http://www.nibs.org/?page=bssc_pubs.

BSSC Publications are also available free of charge from the Federal Emergency Management Agency at 1-800-480-2520 (by FEMA Publication Number).

For detailed information about the BSSC and its projects, visit the BSSC website at http://www.nibs.org/?page=bssc or contact the Council directly at:

BSSC
1090 Vermont A venue, N .W., Suite 700, Washington, D .C . 20005;
Phone: 202-289-7800; Fax 202-289-1092
e-mail p schneider@nibs.org